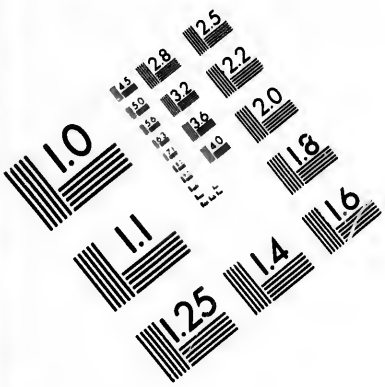


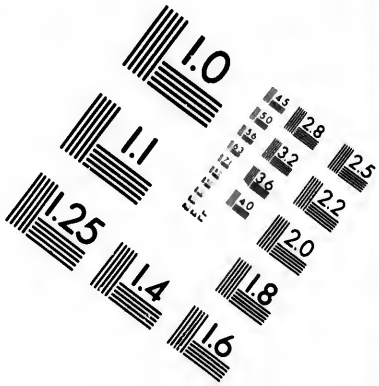
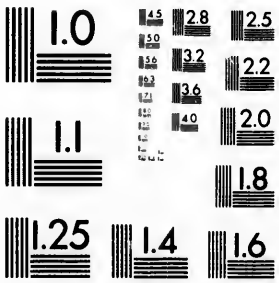
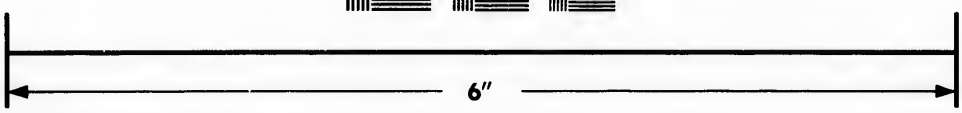
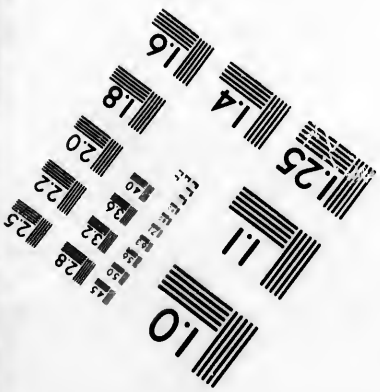
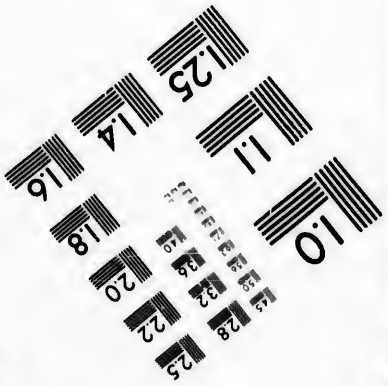


IMAGE EVALUATION TEST TARGET (MT-3)









Photographic Sciences Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☐ Coloured covers/ Couverture de couleur
- ☐ Covers damaged/ Couverture endommagée
- ☐ Covers restored and/or laminated/ Couverture restaurée et/ou pelliculée
- ☐ Cover title missing/ Le titre de couverture manque
- ☐ Coloured maps/ Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black)/ Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations/ Planches et/ou illustrations en couleur
- ☑ Bound with other material/ Relié avec d'autres documents
- ☑ Tight binding may cause shadows or distortion along interior margin/ La reliure serrée peut causer de l'ombre ou de la distortion le long de la marge intérieure
- ☐ Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/ Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- ☐ Additional comments:/ Commentaires supplémentaires:

- ☐ Coloured pages/ Pages de couleur
- ☐ Pages damaged/ Pages endommagées
- ☐ Pages restored and/or laminated/ Pages restaurées et/ou pelliculées
- ☐ Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- ☐ Pages detached/ Pages détachées
- ☐ Showthrough/ Transparence
- ☐ Quality of print varies/ Qualité inégale de l'impression
- ☐ Includes supplementary material/ Comprend du matériel supplémentaire
- ☐ Only edition available/ Seule édition disponible
- ☐ Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image/ Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
							✓				

The copy filmed here has been reproduced thanks to the generosity of:

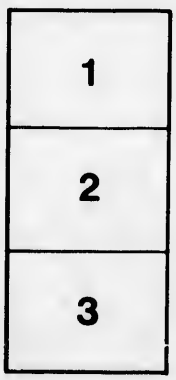
Library Division
Provincial Archives of British Columbia

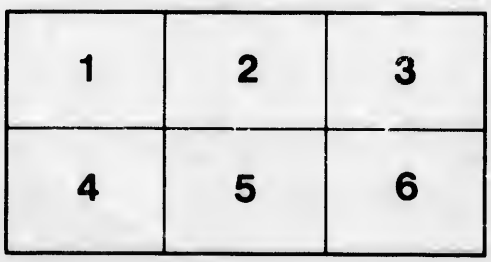
The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:





L'exemplaire filmé fut reproduit grâce à la générosité de:

Library Division
Provincial Archives of British Columbia

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

BULLETIN

OF THE

DEPARTMENT OF LABOR.

No. 16. WASHINGTON. MAY, 1898.

THE ALASKAN GOLD FIELDS AND THE OPPORTUNITIES THEY OFFER FOR CAPITAL AND LABOR.

BY SAM. C. DUNHAM.

[Recognizing the desire for trustworthy information relating to the opportunities for remunerative employment of American labor and capital in the gold regions in the Yukon Valley and adjoining territory, Mr. Samuel C. Dunham, of this Department, was directed to proceed to Alaska and to the locality of the gold regions for the purpose of making an official investigation. The Department was in receipt of so many inquiries relative to wages, cost of living, and other matters relating to the mining industry in Alaska that it was deemed advisable to make the investigation. Instructions were given Mr. Dunham July 29, 1897, and he left Washington on the 31st. Mr. Dunham was selected because of his experience of twelve years or more in gold and silver mining districts, his familiarity with mining processes and the habits of miners fitting him thoroughly for the proposed inquiry. In addition to his knowledge of mining matters, he is an expert stenographer, which qualification has enabled him to take down statements for his report when made to him, thus avoiding the necessity of depending upon memory for transcription.

Mr. Dunham's report is herewith given to the public. It brings matters up to January 8, 1898. In transmitting his report Mr. Dunham informs the Department of the great difficulties that he had to overcome in securing information. These difficulties arose in many ways, chiefly in the verification of statements, and from the habits of miners to exaggerate their accounts of output and conditions. Only personal observations could secure the real facts.

Mr. Dunham acknowledges his indebtedness for courtesies and assistance extended by Hon. Joseph W. Ivey, collector of customs for

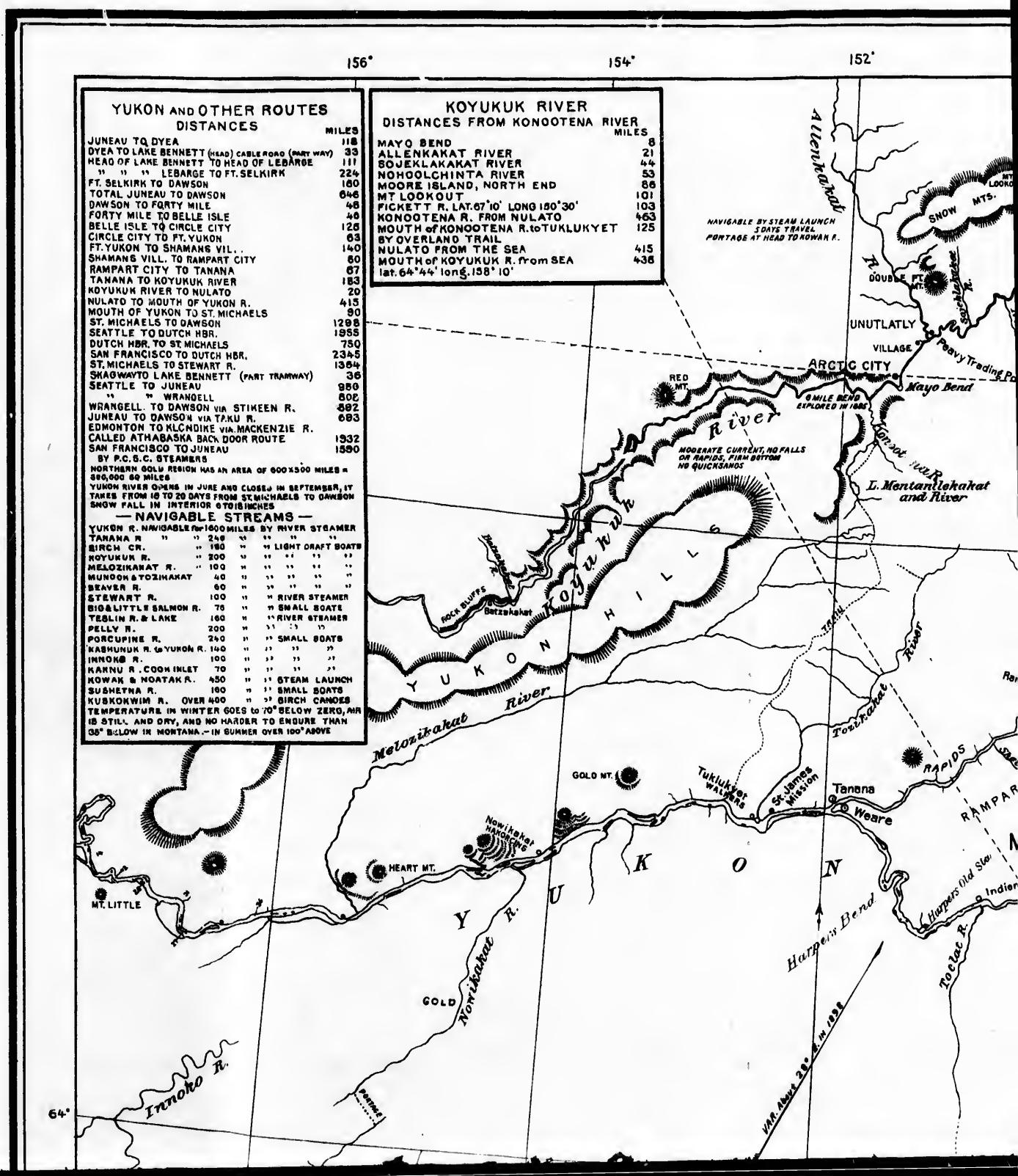
the district of Alaska, Sitka; C. Constantine, inspector Northwest mounted police, Dawson, Northwest Territory; Capt. J. E. Hansen, assistant superintendent of the Alaska Commercial Company, Dawson; Capt. John J. Healey, manager of the North American Transportation and Trading Company, Dawson; Hon. John E. Crane, United States commissioner, Circle City, Alaska; Mr. Charles Smith, deputy collector of customs, Circle City; Mr. Howard Turner, agent Alaska Commercial Company, Circle City; Mr. George E. King, agent North American Transportation and Trading Company, Circle City; Mr. W. A. Beddoe, editor of the Alaska Miner, Juneau; Mr. F. D. Nowell, of the Berners Bay Mining Company, Juneau, and the Alaska Chamber of Commerce, Juneau. Special thanks are also due Ernest O. Crewe, M. D., of Chicago, Ill., who at the time of Mr. Dunham's investigations was at Circle City, for the preparation of that portion of his report relating to the climatic conditions and agricultural resources of Alaska, and to Capt. P. H. Ray, U. S. A. For the accompanying general map acknowledgment is hereby rendered to Mr. J. B. Tyrrell, of Washington, D. C.—C. D. W.]

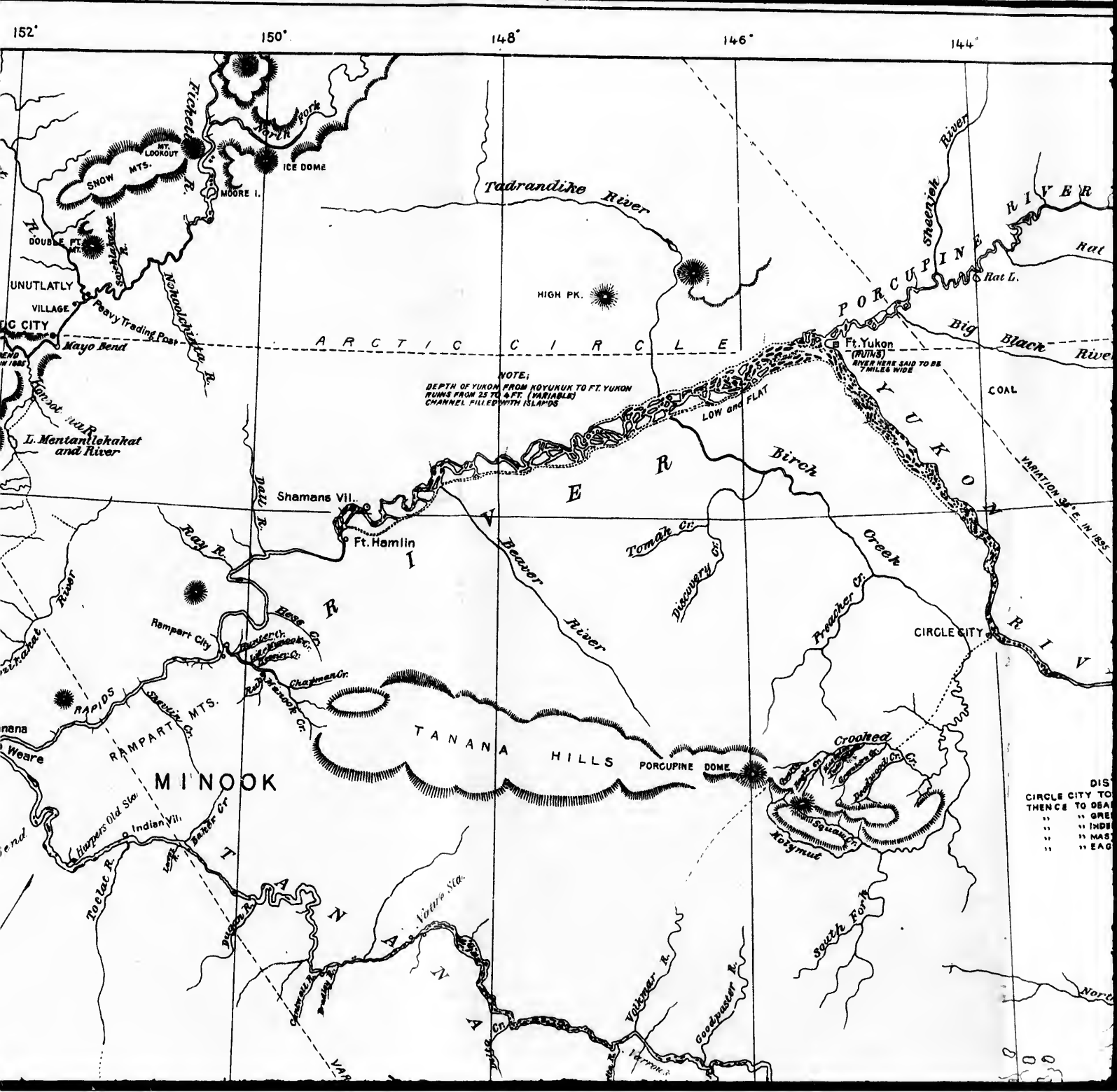
INTRODUCTION.

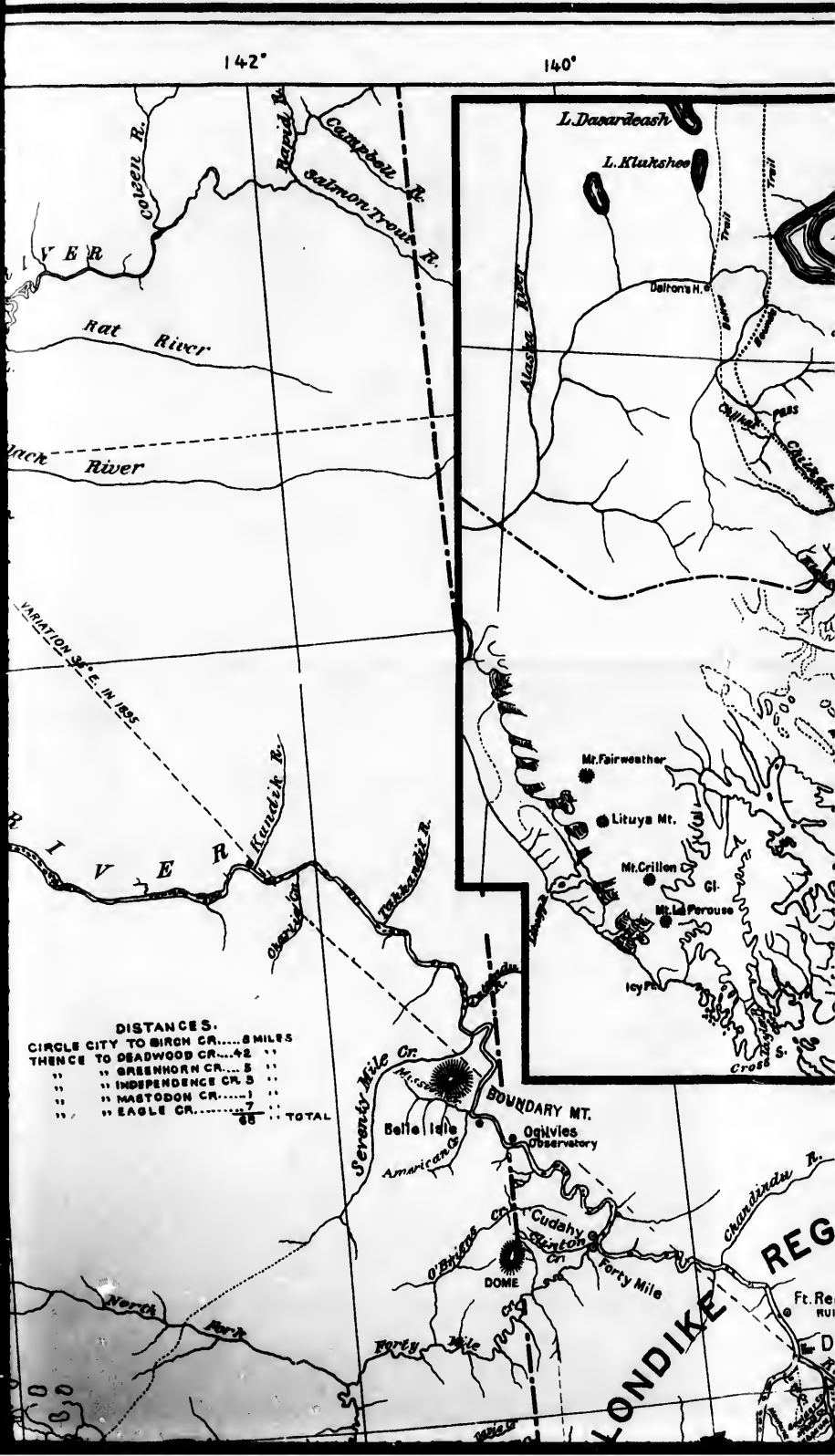
On July 15, 1897, the steamer *Excelsior* entered her dock at San Francisco with a party of miners returning home from the Yukon River. The dispatches which went to the country through the press that evening and the following morning announced that a large amount of gold dust, variously stated at from $500,000 to $750,000, had been brought down on the *Excelsior*, and gave the details of the discovery and partial development the previous fall and winter of rich placer gold diggings on tributaries of the Klondike, a small river flowing into the Yukon from the eastward at a point in Northwest Territory not far from the boundary line between American and British territory. The news created some excitement among the miners of the West, but attracted no great attention in the East. On July 17 the steamer *Portland* landed at Seattle with some sixty miners from the Klondike and bringing gold dust to the value of $800,000. This news was so skillfully handled by enterprising newspapers that within a week thousands of men, many of whom had never taken hold of pick or shovel with serious intentions in their lives, were making preparations to go to the new gold fields, and by August 1 the most dramatic, if not the most extensive, exodus since that of 1849 was well under way. Men who had participated in the great exodus of nearly half a century ago, in reading the accounts, felt their nerves tingle as they recalled the golden days of the fifties, and many of these old pioneers outfitted their sons and nephews and bade them Godspeed to the new Eldorado; while a million artisans and laborers, who during the long industrial depression had toiled for a bare subsistence or had not toiled at all, looked longingly toward the North. The contagion spread to all classes—laborers, clerks, merchants,

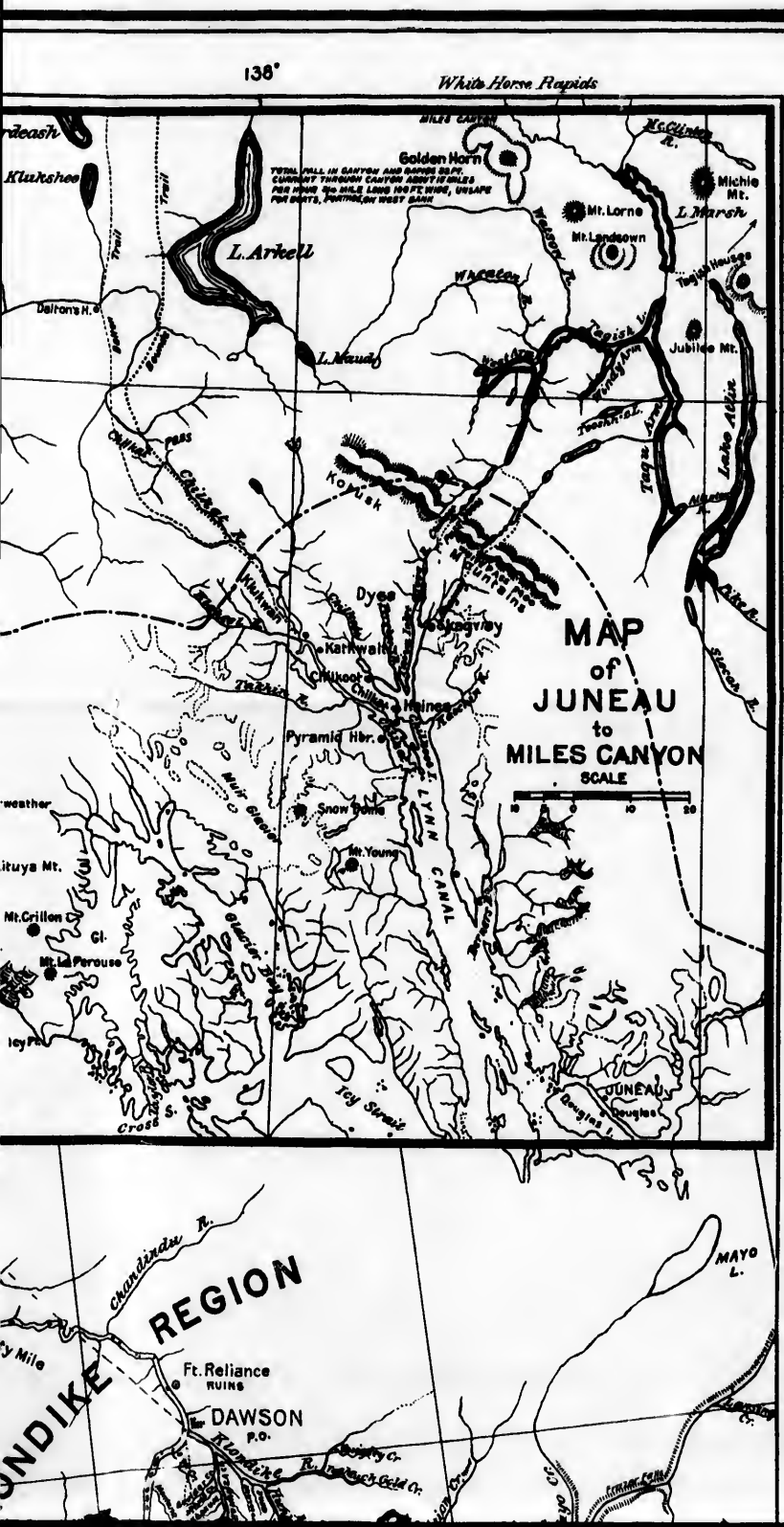
Northwest
E. Hansen,
y, Dawson;
nsportation
ited States
y collector
Commercial
American
A. Beddoe,
ne Berners
Commerce,
D., of Chi-
s at Circle
ng to the
d to Capt.
knowledg-
n, D. C.—

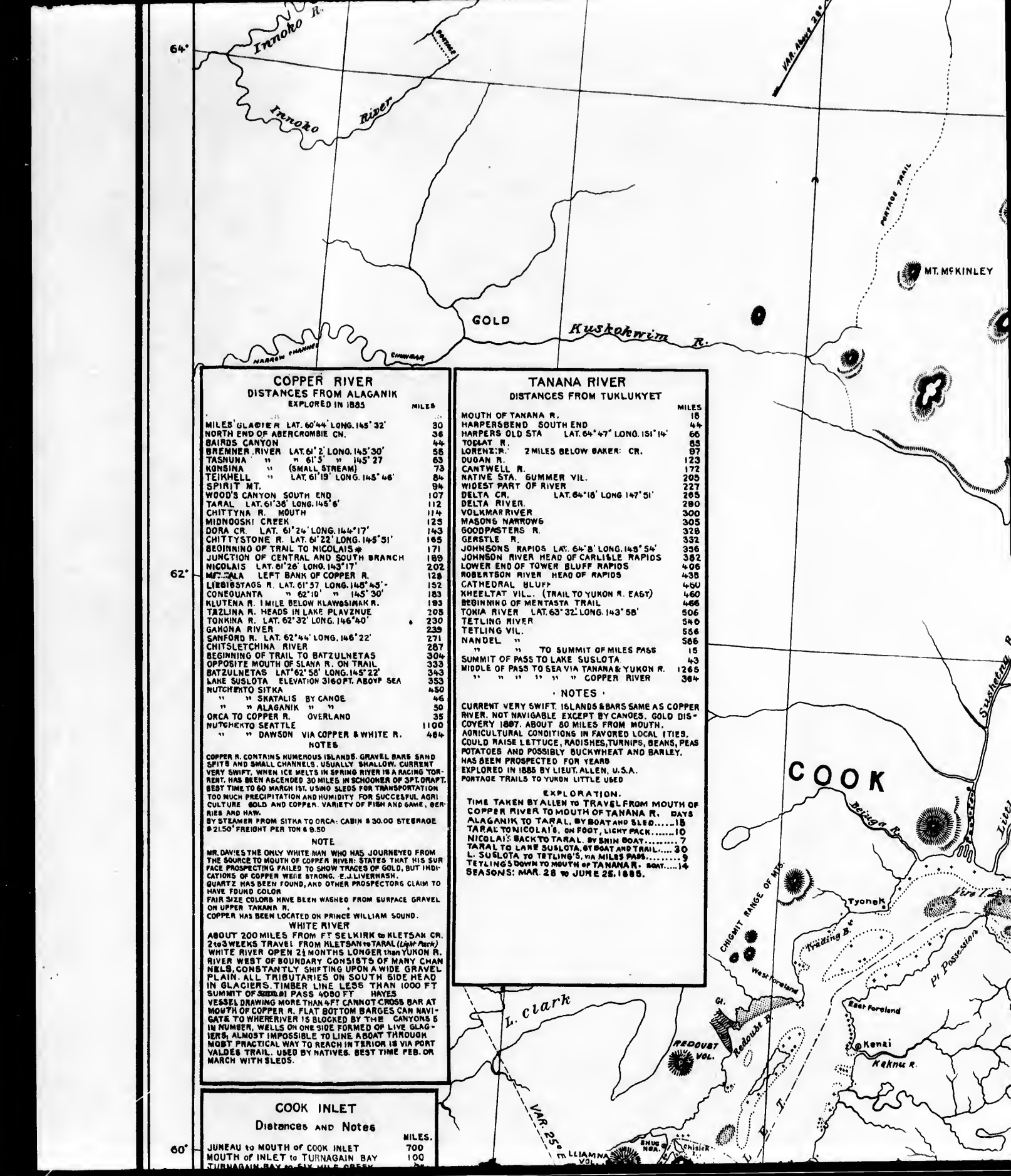
San Fran-
on River.
hat even-
nt of gold
a brought
nd partial
diggings
ne Yukon
from the
news cre-
acted no
d landed
ging gold
ndled by
en, many
tentions
d fields,
, exodus
pated in
ccounts,
e fifties,
ews and
ans and
ed for a
ard the
rchants,


156°
154°
152°
64°
YUKON AND OTHER ROUTES
DISTANCES
MILES
JUNEAU TO DYEA 118
DYEA TO LAKE BENNETT (HEAD) CABLE ROAD (PART WAY) 33
HEAD OF LAKE BENNETT TO HEAD OF LEBARGE 111
" " " LEBARGE TO FT. SELKIRK 224
FT. SELKIRK TO DAWSON 160
TOTAL JUNEAU TO DAWSON 646
DAWSON TO FORTY MILE 48
FORTY MILE TO BELLE ISLE 40
BELLE ISLE TO CIRCLE CITY 125
CIRCLE CITY TO FT. YUKON 63
FT. YUKON TO SHAMANS VIL. 140
SHAMANS VILL. TO RAMPART CITY 60
RAMPART CITY TO TANANA 67
TANANA TO KOYUKUK RIVER 183
KOYUKUK RIVER TO NULATO 20
NULATO TO MOUTH OF YUKON R. 415
MOUTH OF YUKON TO ST. MICHAELS 90
ST. MICHAELS TO DAWSON 1298
SEATTLE TO DUTCH HBR. 1955
DUTCH HBR. TO ST. MICHAELS 750
SAN FRANCISCO TO DUTCH HBR. 2345
ST. MICHAELS TO STEWART R. 1364
SKAGWAY TO LAKE BENNETT (PART TRAMWAY) 36
SEATTLE TO JUNEAU 950
" " WRANGELL 808
WRANGELL TO DAWSON VIA STIKEEN R. 582
JUNEAU TO DAWSON VIA TAKU R. 683
EDMONTON TO KLONDIKE VIA MACKENZIE R.
CALLED ATHABASKA BACK DOOR ROUTE 1932
SAN FRANCISCO TO JUNEAU 1590
BY P.C.S.C. STEAMERS
NORTHERN GOLD REGION HAS AN AREA OF 600 X 500 MILES = 300,000 SQ MILES
YUKON RIVER OPENS IN JUNE AND CLOSED IN SEPTEMBER, IT TAKES FROM 16 TO 20 DAYS FROM ST. MICHAELS TO DAWSON
SNOW FALL IN INTERIOR 6 TO 8 INCHES
— NAVIGABLE STREAMS —
YUKON R. NAVIGABLE for 1600 MILES BY RIVER STEAMER
TANANA R " " 240 " " " "
BIRCH CR. " 180 " " LIGHT DRAFT BOATS
KOYUKUK R. " 200 " " " "
MELOZIKAKAT R. " 100 " " " "
MUNOOK & TOZIKAKAT 40 " " " "
BEAVER R. 60 " " " "
STEWART R. 100 " " RIVER STEAMER
BIG & LITTLE SALMON R. 75 " " SMALL BOATS
TESLIN R. & LAKE 160 " " RIVER STEAMER
PELLY R. 200 " " " "
PORCUPINE R. 240 " " SMALL BOATS
KASHUNUK R. to YUKON R. 140 " " " "
INNOKO R. 100 " " " "
KAKNU R. COOK INLET 70 " " " "
KOWAK & NOATAK R. 450 " " STEAM LAUNCH
SUSHETNA R. 160 " " SMALL BOATS
KUSKOKWIM R. OVER 400 " " BIRCH CANOES
TEMPERATURE IN WINTER GOES to 70° BELOW ZERO, AIR IS STILL AND DRY, AND NO HARDER TO ENDURE THAN 38° BELOW IN MONTANA.— IN SUMMER OVER 100° ABOVE
KOYUKUK RIVER
DISTANCES FROM KONOOTENA RIVER
MILES
MAYO BEND 8
ALLENKAKAT RIVER 21
SOJEKLAKAKAT RIVER 44
NOHOOLCHINTA RIVER 53
MOORE ISLAND, NORTH END 86
MT LOOKOUT 101
FICKETT R. LAT. 67°10' LONG 150°30' 103
KONOOTENA R. FROM NULATO 463
MOUTH of KONOOTENA R. to TUKLUKYET BY OVERLAND TRAIL 125
NULATO FROM THE SEA 415
MOUTH of KOYUKUK R. from SEA 438
lat. 64°44' long. 158° 10'
Allenkakat
NAVIGABLE BY STEAM LAUNCH 3 DAYS TRAVEL PORTAGE AT HEAD TO KOWAK R.
SNOW MTS.
DOUBLE PT. MT.
Starchlakane R.
UNUTLATLY VILLAGE
Peavy Trading Po
ARCTIC CITY
RED MT.
Mayo Bend
8 MILE BEND EXPLORED IN 1885
Yukon River
MODERATE CURRENT, NO FALLS OR RAPIDS, FIRM BOTTOM NO QUICKSANDS
Konsot Mun R.
L. Montanlekakat and River
Kaiyuh HILLS
Nowikakat R.
ROCK BLUFFS
Betzekakat
Melozikakat River
Tozikakat River
RAPIDS
GOLD MT.
Tuklukyet WATERS
St. James Mission
Tanana
Weare
Nowikakat HANGING GLACIER
HEART MT.
MT. LITTLE
YUKON
Harper's Bend
Harper's Old Sta
Indian
Noolat R.
Nowikakat R.
GOLD
Innoko R.
PORTAGE
VAR. About 28° E. IN 1938


152°
150°
148°
146°
144°
Tadrandike River
North Fork
Tickell R.
MT. LOOKOUT
SNOW MTS.
ICE DOME
MOORE I.
DOUBLE PT. MT.
Sachaliake R.
UNUTLATLY
VILLAGE
Peavy Trading Post
Nohoolopikka R.
Mayo Bend
ARCTIC CIRCLE
HIGH PK.
Sheenjek River
PORCUPINE RIVER
Rat L.
Ft. Yukon
(RUINS)
RIVER HERE SAID TO BE 7 MILES WIDE
Big Black River
COAL
NOTE;
DEPTH OF YUKON FROM KOYUKUK TO FT. YUKON RUNS FROM 25 TO 4 FT. (VARIABLE) CHANNEL FILLED WITH ISLANDS
LOW and FLAT
YUKON RIVER
VARIATION 31° E. IN 1895
L. Mentanlekakat and River
Dall R.
Shamans Vil.
Ft. Hamlin
Rex R.
Beaver River
Tomak Cr.
Discovery Cr.
Birch Creek
Preacher Cr.
CIRCLE CITY
Rampart City
Hess Cr.
Eureka Cr.
Chapman Cr.
RAPIDS
Dunbar Cr.
RAMPART MTS.
TANANA HILLS
PORCUPINE DOME
Crooked Cr.
Mastodon Cr.
Squaw Cr.
Harrymut
MINOOK
Harpers old Sta.
Indian Vil.
Beaver Cr.
Toolat R.
Tanana
Nenana
Weare
South Fork
Volmar R.
Goodpaster R.
Chatanika R.
Salcha R.
Delta R.
Volmar Sta.
DIST
CIRCLE CITY TO
THENCE TO GRE
" " INDE
" " MAS
" " EAG


142°
140°
L. Dasardeash
L. Klukshoo
Dalton's H.
Alaska Range
Mt. Fairweather
Lituya Mt.
Mt. Crillon
Mt. La Perouse
Icy Pt.
Cross S.
Rat River
Porcupine R.
Kandik R.
Seventy Mile Cr.
BOUNDARY MT.
Belle Isle
Ogilvies
Observatory
American Cr.
Cudahy Cr.
Clinton Cr.
O'Brians Cr.
DOME
Forty Mile
Forty Mile Cr.
North Fork
Chandindu R.
Ft. Re
RU
D
LONDIKE REG
DISTANCES.
CIRCLE CITY TO BIRCH CR.....8 MILES
THENCE TO DEADWOOD CR....42 "
" " GREENHORN CR....5 "
" " INDEPENDENCE CR. 3 "
" " MASTODON CR.....1 "
" " EAGLE CR.....7 "
68 " TOTAL


138°
White Horse Rapids
Golden Horn
TOTAL FALL IN CANYON AND RAPIDS 53 FT.
CURRENT THROUGH CANYON ABOUT 15 MILES
PER HOUR. 1/2 MILE LONG 140 FT. WIDE, UNSAFE
FOR BOATS, PORTAGE ON WEST BANK
Mt. Lorne
Mt. Lansdown
Michie Mt.
L. Marsh
L. Arkell
Jubilee Mt.
L. Laberge
Lake Atlin
Dalton's H.
Chilkat Pass
Chilkat R.
Ko Mak
Dyea
Skagway
Katkwalla
Chilkoot
Haines
Pyramid Hbr.
Snow Dome
Mt. Young
LYNN CANAL
Muir Glacier
Mt. Crillon
Mt. La Perouse
Glacier Bay
Icy Strait
JUNEAU
Douglas
Douglas I.
MAP
of
JUNEAU
to
MILES CANYON
SCALE
Chandindu R.
Ft. Reliance
RUINS
DAWSON
P.O.
Klondike R.
MAYO
L.
64°



COPPER RIVER
DISTANCES FROM ALAGANIK
EXPLORED IN 1885

	MILES
MILES GLACIER LAT. 60°44' LONG. 145°32'	30
NORTH END OF ABERCROMBIE CN.	36
BAIRDS CANYON	44
BREMNER RIVER LAT. 61°2' LONG. 145°30'	56
TASNUNA " " 61°5' " 145°27	63
KONSINA " (SMALL STREAM)	73
TEIKHELL " LAT. 61°19' LONG. 145°46'	84
SPIRIT MT.	94
WOOD'S CANYON SOUTH END	107
TARAL LAT. 61°38' LONG. 145°6'	112
CHITTYNA R. MOUTH	114
MIDNOOSKI CREEK	125
DORA CR. LAT. 61°24' LONG. 144°17'	143
CHITTYSTONE R. LAT. 61°22' LONG. 145°51'	165
BEGINNING OF TRAIL TO NICOLAIS *	171
JUNCTION OF CENTRAL AND SOUTH BRANCH	189
NICOLAIS LAT. 61°26' LONG. 143°17'	202
MEALA LEFT BANK OF COPPER R.	128
LIBBIESTAGS R. LAT. 61°57 LONG. 145°45'	152
CONEGUANTA " 62°10' " 145°30'	183
KLUTENA R. 1 MILE BELOW KLAWASIMAK R.	193
TAZLINA R. HEADS IN LAKE PLAVZNUE	205
TONKINA R. LAT. 62°32' LONG. 146°40'	230
GANONA RIVER	239
SANFORD R. LAT. 62°44' LONG. 146°22'	271
CHITSLETCHINA RIVER	287
BEGINNING OF TRAIL TO BATZULNETAS	304
OPPOSITE MOUTH OF SLANA R. ON TRAIL	333
BATZULNETAS LAT. 62°58' LONG. 145°22'	343
LAKE SUSLOTA ELEVATION 3160 FT. ABOVE SEA	353
NUTCHEKTO SITKA	450
" " SKATALIS BY CANOE	46
" " ALAGANIK " "	50
ORCA TO COPPER R. OVERLAND	35
NUTCHEKTO SEATTLE	1100
" " DAWSON VIA COPPER & WHITE R.	484

NOTES

COPPER R. CONTAINS NUMEROUS ISLANDS. GRAVEL BARS SAND SPITS AND SMALL CHANNELS. USUALLY SHALLOW. CURRENT VERY SWIFT. WHEN ICE MELTS IN SPRING RIVER IS A RACING TORRENT. HAS BEEN ASCENDED 30 MILES IN SCHOONER OF 3 FT. DRAFT. BEST TIME TO GO MARCH 1ST. USING SLEDS FOR TRANSPORTATION. TOO MUCH PRECIPITATION AND HUMIDITY FOR SUCCESFUL AGRICULTURE. GOLD AND COPPER. VARIETY OF FISH AND GAME, BERRIES AND HAY.

BY STEAMER FROM SITKA TO ORCA: CABIN $ 30.00 STEERAGE $ 21.50 FREIGHT PER TON $ 9.50

NOTE

MR. DAVIES THE ONLY WHITE MAN WHO HAS JOURNEYED FROM THE SOURCE TO MOUTH OF COPPER RIVER: STATES THAT HIS SURFACE PROSPECTING FAILED TO SHOW TRACES OF GOLD, BUT INDICATIONS OF COPPER WERE STRONG. E.J. LIVERNASH. QUARTZ HAS BEEN FOUND, AND OTHER PROSPECTORS CLAIM TO HAVE FOUND COLOR.

FAIR SIZE COLORS HAVE BEEN WASHED FROM SURFACE GRAVEL ON UPPER TANANA R.

COPPER HAS BEEN LOCATED ON PRINCE WILLIAM SOUND.

WHITE RIVER

ABOUT 200 MILES FROM FT SELKIRK to KLETSAN CR. 2 to 3 WEEKS TRAVEL FROM KLETSAN to TARAL (Light Pack) WHITE RIVER OPEN 2½ MONTHS LONGER than YUKON R. RIVER WEST OF BOUNDARY CONSISTS OF MANY CHANNELS, CONSTANTLY SHIFTING UPON A WIDE GRAVEL PLAIN. ALL TRIBUTARIES ON SOUTH SIDE HEAD IN GLACIERS. TIMBER LINE LESS THAN 1000 FT SUMMIT OF [illegible] PASS 4080 FT HAYES VESSEL DRAWING MORE THAN 4 FT CANNOT CROSS BAR AT MOUTH OF COPPER R. FLAT BOTTOM BARGES CAN NAVIGATE TO WHERE RIVER IS BLOCKED BY THE CANYONS 5 IN NUMBER, WELLS ON ONE SIDE FORMED OF LIVE GLACIERS, ALMOST IMPOSSIBLE TO LINE ABOAT THROUGH MOST PRACTICAL WAY TO REACH INTERIOR IS VIA PORT VALDES TRAIL. USED BY NATIVES. BEST TIME FEB. OR MARCH WITH SLEDS.

TANANA RIVER
DISTANCES FROM TUKLUKYET

	MILES
MOUTH OF TANANA R.	16
HARPERSBEND SOUTH END	44
HARPERS OLD STA LAT. 64°47' LONG. 151°14'	66
TOCLAT R.	85
LORENZ R. 2 MILES BELOW BAKER CR.	87
DUGAN R.	123
CANTWELL R.	172
NATIVE STA. SUMMER VIL.	205
WIDEST PART OF RIVER	227
DELTA CR. LAT. 64°18' LONG 147°51'	265
DELTA RIVER.	280
VOLKMAR RIVER	300
MASONS NARROWS	305
GOODPASTERS R.	328
GERSTLE R.	332
JOHNSONS RAPIDS LAT. 64°8' LONG. 148°54'	356
JOHNSON RIVER HEAD OF CARLISLE RAPIDS	382
LOWER END OF TOWER BLUFF RAPIDS	406
ROBERTSON RIVER HEAD OF RAPIDS	438
CATHEDRAL BLUFF	480
KHEELTAT VIL. (TRAIL TO YUKON R. EAST)	460
BEGINNING OF MENTASTA TRAIL	486
TONIA RIVER LAT. 63°32' LONG. 143°58'	506
TETLING RIVER	540
TETLING VIL.	556
NANDEL "	566
" " TO SUMMIT OF MILES PASS	15
SUMMIT OF PASS TO LAKE SUSLOTA	43
MIDDLE OF PASS TO SEA VIA TANANA & YUKON R.	1265
" " " " " " COPPER RIVER	364

NOTES

CURRENT VERY SWIFT. ISLANDS & BARS SAME AS COPPER RIVER. NOT NAVIGABLE EXCEPT BY CANOES. GOLD DISCOVERY 1887. ABOUT 80 MILES FROM MOUTH.

AGRICULTURAL CONDITIONS IN FAVORED LOCALITIES. COULD RAISE LETTUCE, RADISHES, TURNIPS, BEANS, PEAS POTATOES AND POSSIBLY BUCKWHEAT AND BARLEY.

HAS BEEN PROSPECTED FOR YEARS

EXPLORED IN 1885 BY LIEUT. ALLEN, U.S.A.

PORTAGE TRAILS TO YUKON LITTLE USED

EXPLORATION.

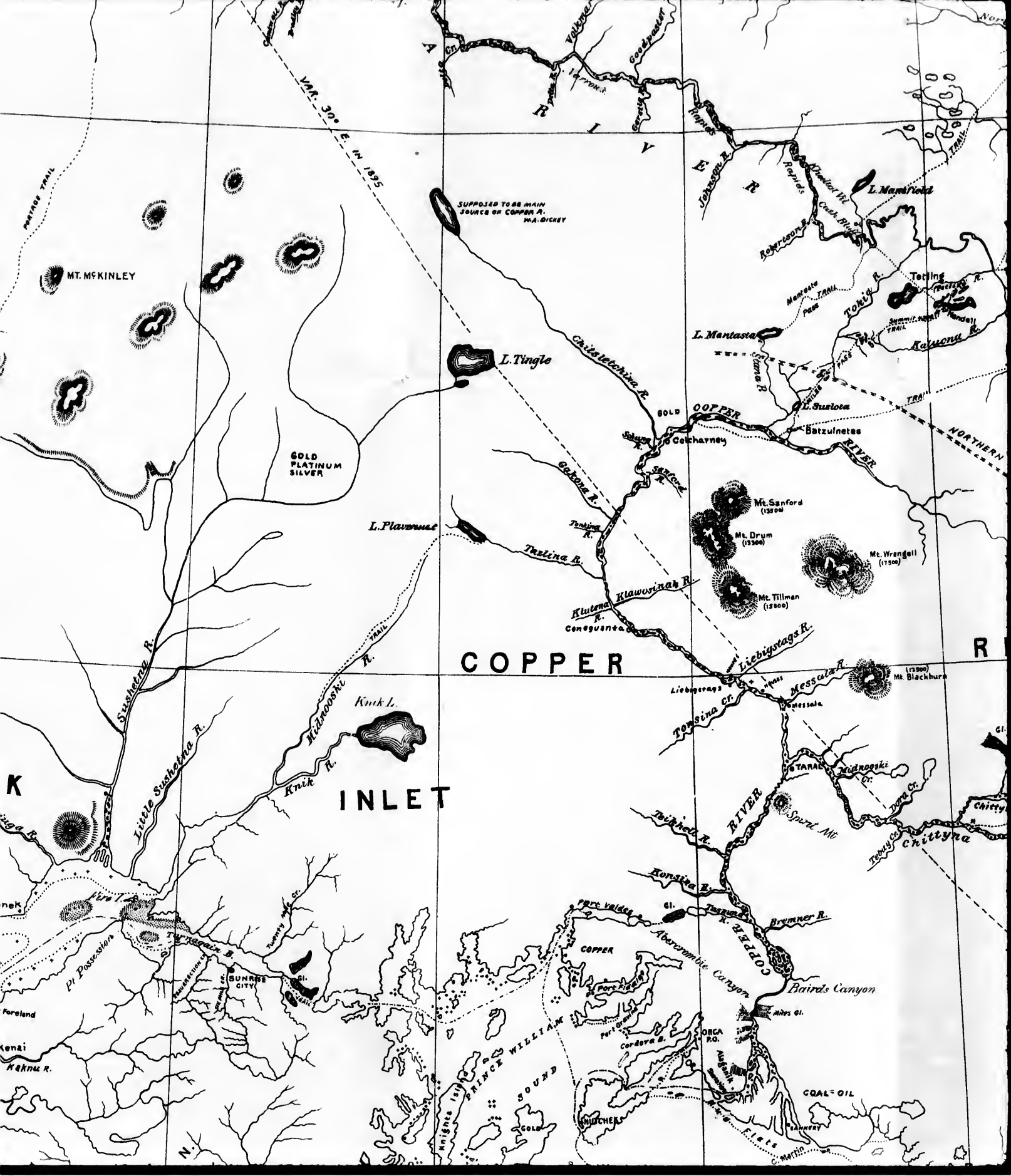
TIME TAKEN BY ALLEN TO TRAVEL FROM MOUTH OF COPPER RIVER TO MOUTH OF TANANA R.

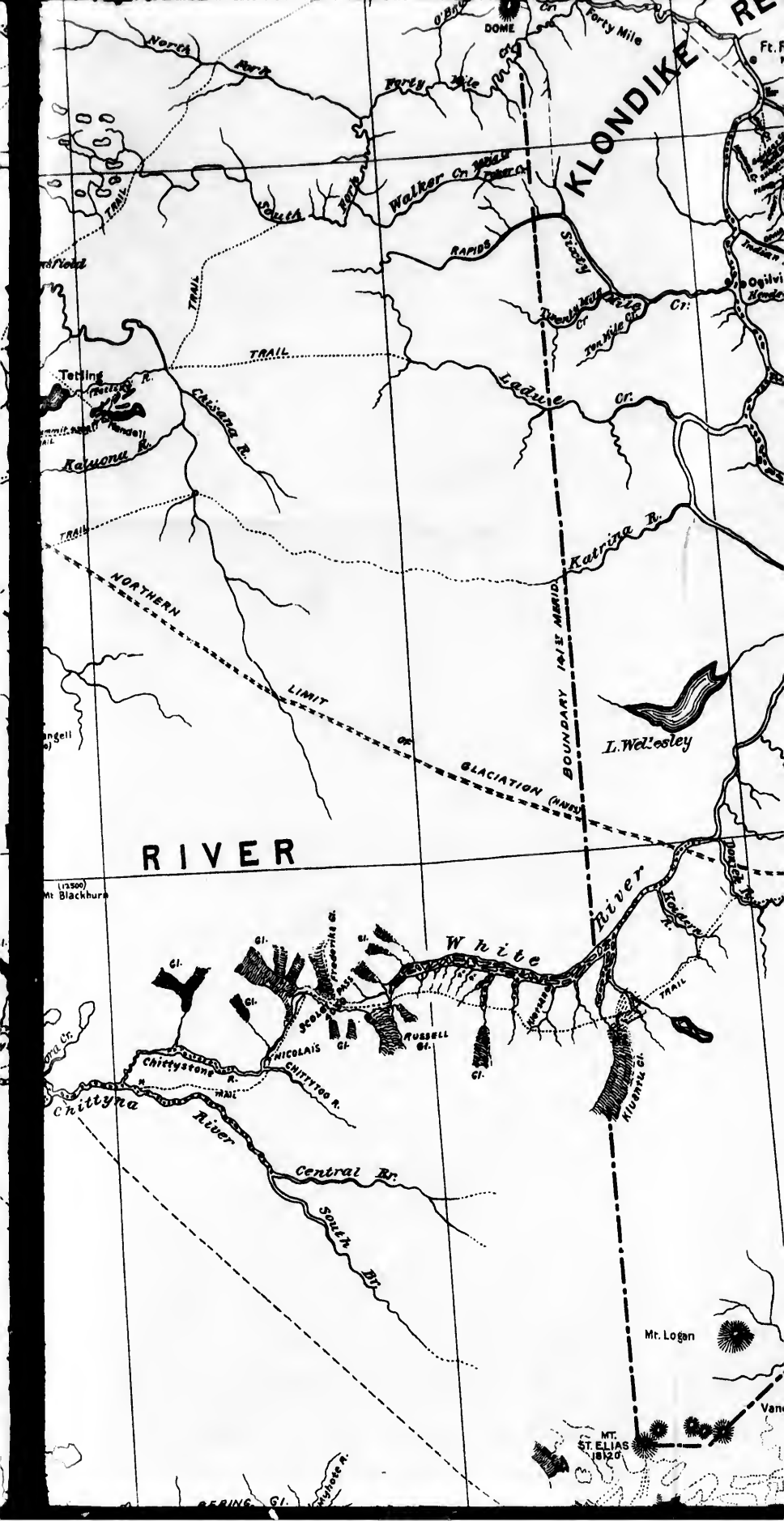
	DAYS
ALAGANIK TO TARAL, BY BOAT AND SLED	15
TARAL TO NICOLAI'S, ON FOOT, LIGHT PACK	10
NICOLAI'S BACK TO TARAL, BY SKIN BOAT	7
TARAL TO LAKE SUSLOTA, BY BOAT AND TRAIL	30
L. SUSLOTA TO TETLING'S, VIA MILES PASS	9
TETLING'S DOWN TO MOUTH OF TANANA R. BOAT	14

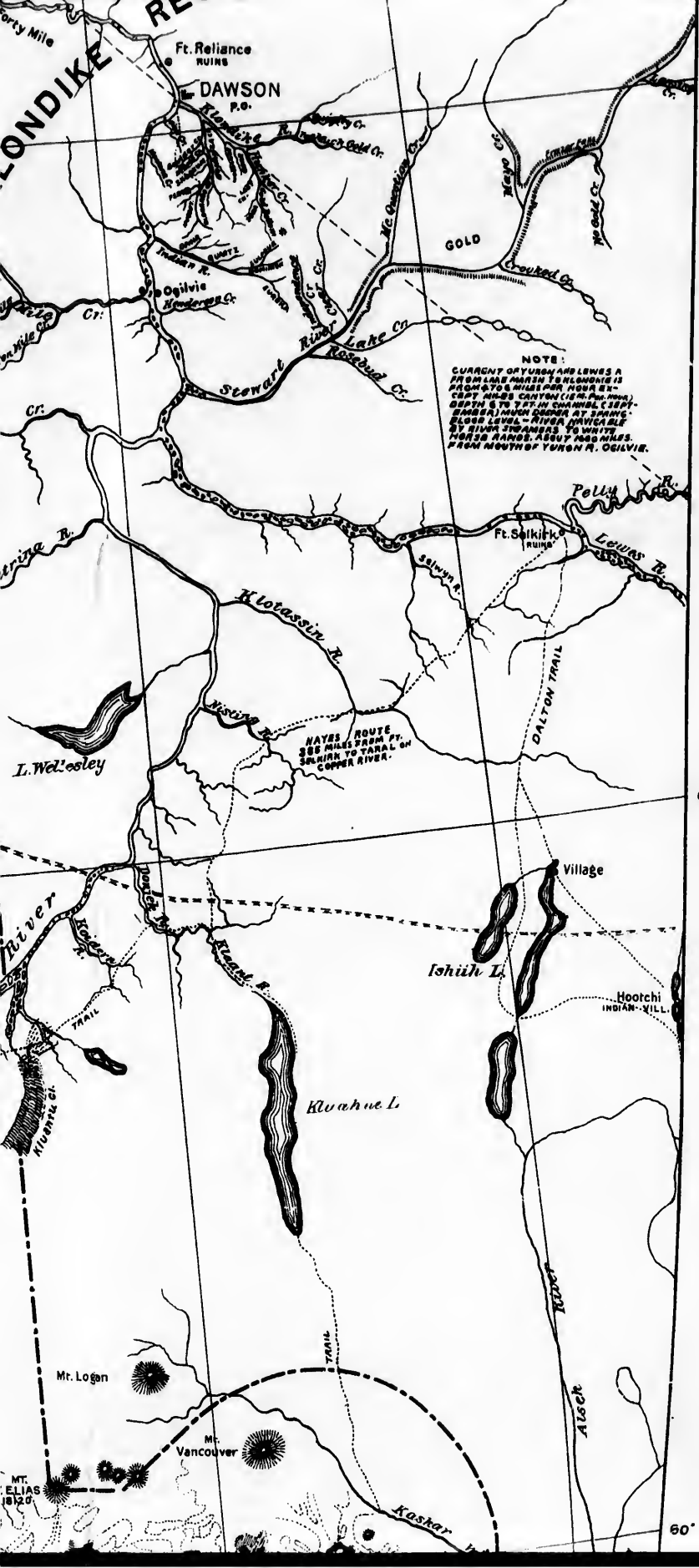
SEASONS: MAR. 28 TO JUNE 25, 1885.

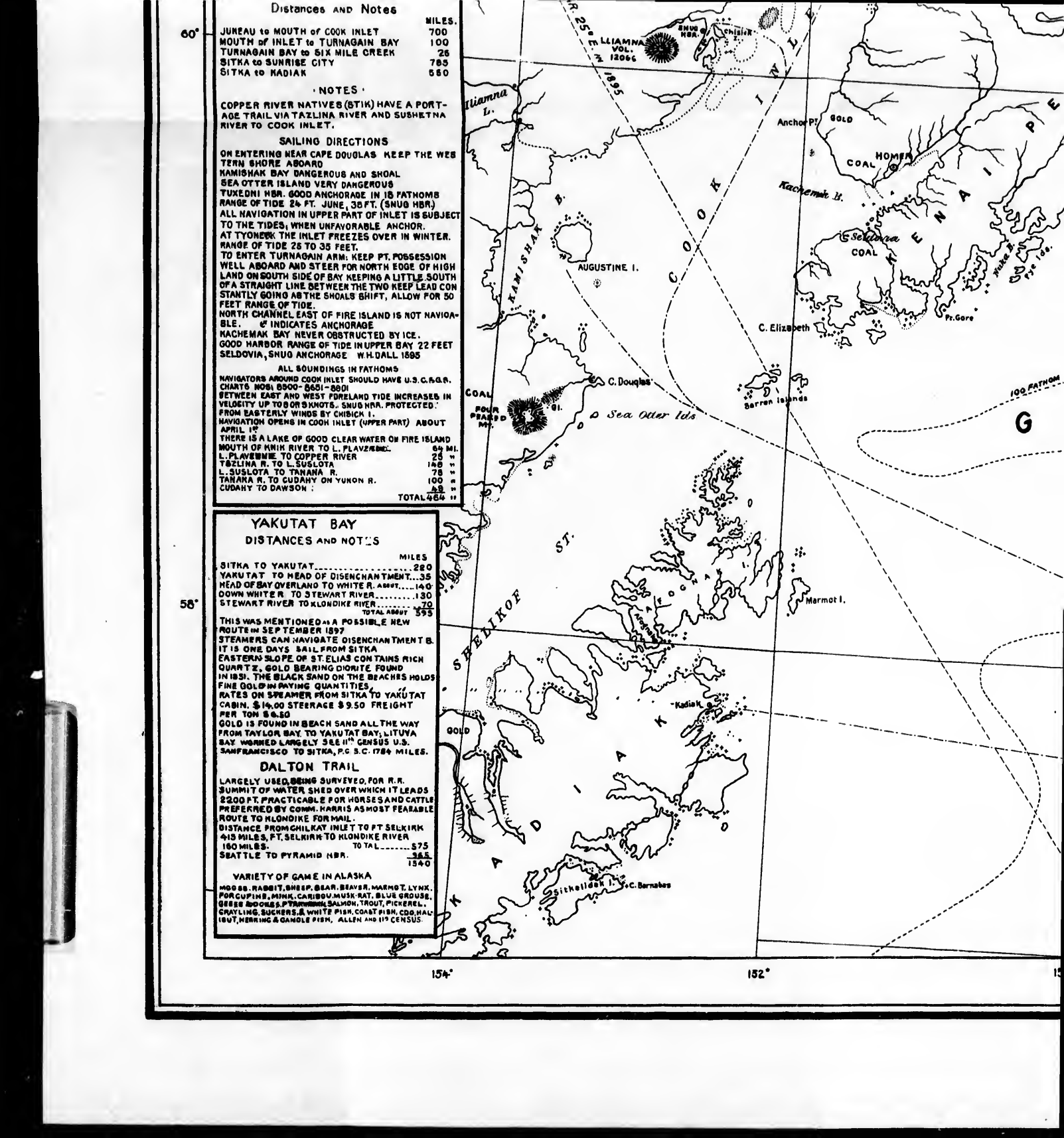
COOK INLET
Distances and Notes

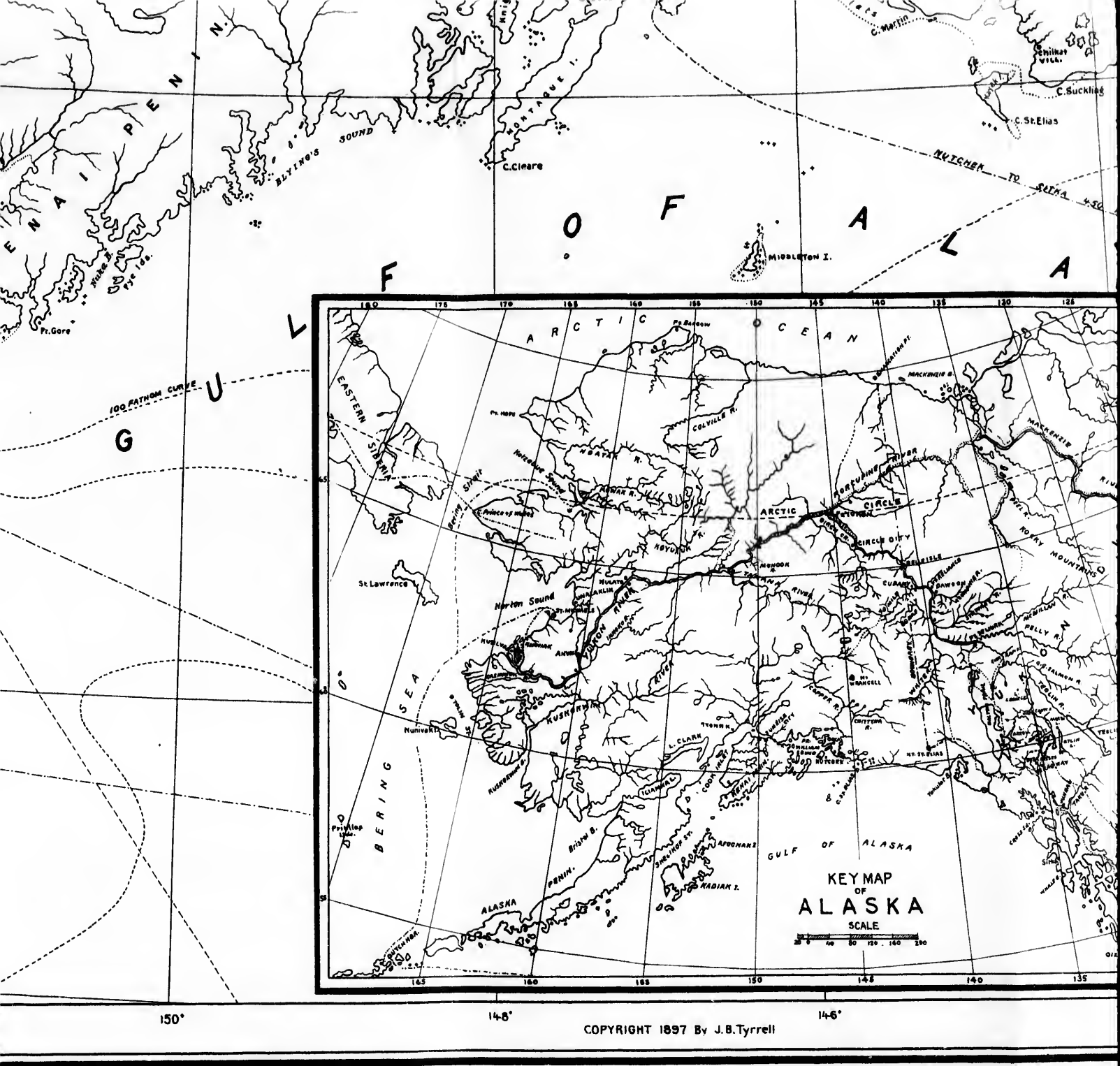
	MILES.
JUNEAU to MOUTH of COOK INLET	700
MOUTH of INLET to TURNAGAIN BAY	100
TURNAGAIN BAY to SIX MILE CREEK	


MT. McKINLEY
PORTAGE TRAIL
VAR. 30° E. IN 1895
SUPPOSED TO BE MAIN SOURCE OF COPPER R. W.A. DICKEY
L. Tingle
Chistochina R.
GOLD PLATINUM SILVER
L. Mantasta
Mantasta Pass TRAIL
Tokio R.
Tetling
Kasuonu R.
L. Susitna
Batzulnetas
NORTHERN
RIVER
Gakona R.
Sanford
Mt. Sanford (13500)
Mt. Drum (13500)
Mt. Wrangell (17500)
Mt. Tillman (13500)
L. Plavinnae
Tazlina R.
Klawasinah R.
Klutina R.
Copper Center
Liebigstag R.
COPPER
Messela R.
Mt. Blackburn (17500)
Tonsina Cr.
Messela
TARAL
Midnooski Cr.
Midnooski R.
Knik L.
Knik R.
Susshetna R.
Little Susshetna R.
INLET
Twikhell R.
RIVER
Spirit Mt.
Dora Cr.
Chittyna
Chittyna R.
Konsina R.
Port Valdez
Gl.
Tasnuna R.
Brymner R.
COPPER
Abercrombie Canyon
Baird's Canyon
Miners Gl.
Port Valdez
Port Orgenal
Cordova R.
ORCA P.O.
PRINCE WILLIAM SOUND
Knights Island
COAL = OIL
Flats
C. Martin
Hutchers
Foreland
Kenai
Kakna R.
Pt Possession
Sunrise City
Gl.
Twenty Mile Cr.
Fire I.
Susshetna R.

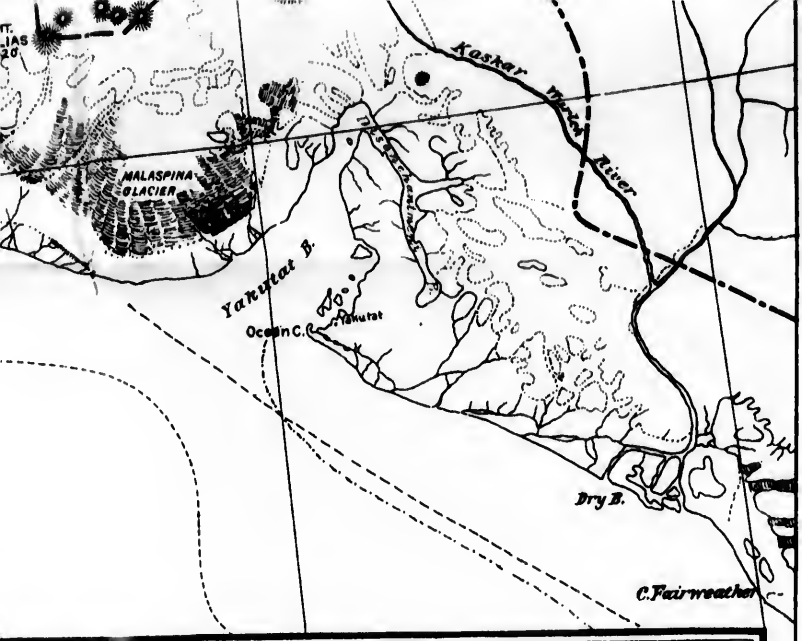

KLONDIKE
DOME
Forty Mile
North Fork
Forty Mile Cr.
Walker Cr.
South Fork
TRAIL
RAPIDS
Sixtymile R.
Twenty Mile Cr.
Ten Mile Cr.
Ogilvi
Ladue Cr.
Tetling
Tetling R.
Chisana R.
Kalvona R.
Katrina R.
NORTHERN
LIMIT
OF
GLACIATION (NAVE)
BOUNDARY 141st MERID.
L. Wellesley
RIVER
Mt Blackhurn
White River
Gl.
Frederika Gl.
Scolai Pass
NICOLAIS
CHITTYTOO R.
Chittystone R.
Chittyna River
Central Br.
South Br.
RUSSELL Gl.
Kluane Gl.
Mt. Logan
MT. ST. ELIAS 18120
BERING Gl.


Ft. Reliance
RUINS
DAWSON
P.O.
64°
Ogilvie
Henderson Cr.
Stewart River
Lake Cr.
Rosebud Cr.
GOLD
Crowded Cr.
Mayo Cr.
Mc Question Cr.
Mc Gold Cr.
NOTE:
CURRENT OF YUKON AND LEWES A FROM LAKE MARSH TO HONOHONA IS FROM 4 TO 6 MILES PER HOUR EXCEPT MILES CANYON (1 1/2 M. AND MINDS) DEPTH 6 TO 7 FT. IN CHANNEL (SEPTEMBER) MUCH DEEPER AT SPRING FLOOD LEVEL - RIVER DRIVEN ALL BY STEAM STEAMERS TO WHITE HORSE RAPIDS. ABOUT 1600 MILES FROM MOUTH OF YUKON R. OGILVIE.
Pelly R.
Ft. Selkirk
RUINS
Lewis R.
Selwyn R.
Klotassin R.
Nisling R.
DALTON TRAIL
HAYES ROUTE
385 MILES FROM FT. SELKIRK TO TARAL ON COPPER RIVER.
L. Wel'esley
62°
Village
Ishiih L.
Hootchi
INDIAN VILL.
Kluahne L.
TRAIL
Mt. Logan
Mt. Vancouver
MT. ELIAS 18120
Kaskar
60°


Distances and Notes
MILES.
JUNEAU to MOUTH of COOK INLET 700
MOUTH of INLET to TURNAGAIN BAY 100
TURNAGAIN BAY to SIX MILE CREEK 26
SITKA to SUNRISE CITY 785
SITKA to KADIAK 550
NOTES
COPPER RIVER NATIVES (STIK) HAVE A PORTAGE TRAIL VIA TAZLINA RIVER AND SUSHETNA RIVER TO COOK INLET.
SAILING DIRECTIONS
ON ENTERING NEAR CAPE DOUGLAS KEEP THE WESTERN SHORE ABOARD
KAMISHAK BAY DANGEROUS AND SHOAL
SEA OTTER ISLAND VERY DANGEROUS
TUXEDNI HBR. GOOD ANCHORAGE IN 18 FATHOMS
RANGE OF TIDE 24 FT. JUNE, 36 FT. (SNUG HBR.)
ALL NAVIGATION IN UPPER PART OF INLET IS SUBJECT TO THE TIDES, WHEN UNFAVORABLE ANCHOR.
AT TYONEK THE INLET FREEZES OVER IN WINTER.
RANGE OF TIDE 25 TO 35 FEET.
TO ENTER TURNAGAIN ARM: KEEP PT. POSSESSION WELL ABOARD AND STEER FOR NORTH EDGE OF HIGH LAND ON SOUTH SIDE OF BAY KEEPING A LITTLE SOUTH OF A STRAIGHT LINE BETWEEN THE TWO KEEP LEAD CONSTANTLY GOING AS THE SHOALS SHIFT, ALLOW FOR 50 FEET RANGE OF TIDE.
NORTH CHANNEL EAST OF FIRE ISLAND IS NOT NAVIGABLE. ⚓ INDICATES ANCHORAGE
KACHEMAK BAY NEVER OBSTRUCTED BY ICE.
GOOD HARBOR RANGE OF TIDE IN UPPER BAY 22 FEET
SELDOVIA, SNUG ANCHORAGE W.H. DALL 1895
ALL SOUNDINGS IN FATHOMS
NAVIGATORS AROUND COOK INLET SHOULD HAVE U.S.C.&G.S. CHARTS NOS: 8500-8651-8801
BETWEEN EAST AND WEST FORELAND TIDE INCREASES IN VELOCITY UP TO 8 OR 9 KNOTS. SNUG HBR. PROTECTED FROM EASTERLY WINDS BY CHIBICK I.
NAVIGATION OPENS IN COOK INLET (UPPER PART) ABOUT APRIL 1st
THERE IS A LAKE OF GOOD CLEAR WATER ON FIRE ISLAND
MOUTH OF KNIK RIVER TO L. PLAVERMEL 64 MI.
L. PLAVERMEL TO COPPER RIVER 25 "
TAZLINA R. TO L. SUSLOTA 148 "
L. SUSLOTA TO TANANA R. 78 "
TANANA R. TO CUDAHY ON YUKON R. 100 "
CUDAHY TO DAWSON 49 "
TOTAL 464 "
YAKUTAT BAY
DISTANCES AND NOTES
MILES
SITKA TO YAKUTAT 220
YAKUTAT TO HEAD OF DISENCHANTMENT 35
HEAD OF BAY OVERLAND TO WHITE R. ABOUT 140
DOWN WHITE R. TO STEWART RIVER 130
STEWART RIVER TO KLONDIKE RIVER 70
TOTAL ABOUT 595
THIS WAS MENTIONED AS A POSSIBLE NEW ROUTE IN SEPTEMBER 1897
STEAMERS CAN NAVIGATE DISENCHANTMENT B. IT IS ONE DAYS SAIL FROM SITKA
EASTERN SLOPE OF ST. ELIAS CONTAINS RICH QUARTZ, GOLD BEARING DIORITE FOUND IN 1891. THE BLACK SAND ON THE BEACHES HOLDS FINE GOLD IN PAYING QUANTITIES.
RATES ON STEAMER FROM SITKA TO YAKUTAT CABIN. $14.00 STEERAGE $9.50 FREIGHT PER TON $6.50
GOLD IS FOUND IN BEACH SAND ALL THE WAY FROM TAYLOR BAY TO YAKUTAT BAY; LITUYA BAY WORKED LARGELY SEE IIth CENSUS U.S.
SAN FRANCISCO TO SITKA, P.C. B.C. 1784 MILES.
DALTON TRAIL
LARGELY USED, BEING SURVEYED, FOR R.R.
SUMMIT OF WATER SHED OVER WHICH IT LEADS 2200 FT. PRACTICABLE FOR HORSES AND CATTLE PREFERRED BY COMM. HARRIS AS MOST FEASABLE ROUTE TO KLONDIKE FOR MAIL.
DISTANCE FROM CHILKAT INLET TO FT SELKIRK 413 MILES, FT. SELKIRK TO KLONDIKE RIVER 160 MILES. TOTAL $75
SEATTLE TO PYRAMID HBR. 365
1540
VARIETY OF GAME IN ALASKA
MOOSE, RABBIT, SHEEP, BEAR, BEAVER, MARMOT, LYNX, PORCUPINE, MINK, CARIBOU, MUSK-RAT, BLUE GROUSE, GEESE, DUCKS, PTARMIGAN, SALMON, TROUT, PICKEREL, GRAYLING, SUCKERS, & WHITE FISH, COAST FISH, COD, HALIBUT, HERRING & CANDLE FISH, ALLEN AND 11th CENSUS.
60°
58°
154°
152°
COOK INLET
KENAI PE
KAMISHAK B.
SHELIKOF ST.
KADIAK
Iliamna L.
ILIAMNA VOL. 12066
SNUG HBR.
Chibick
1895
Anchor Pt.
GOLD
HOMER
COAL
Kachemak B.
Seldovia
COAL
AUGUSTINE I.
Mile 8
Mile 168
Pt. Gore
C. Elizabeth
C. Douglas
COAL
FOUR PEAKED MT.
FI.
Sea Otter Isls
Barren Islands
100 FATHOM
G
Marmot I.
Kadiak
GOLD
Sitkalidak I.
C. Barnabas




MT. ST. ELIAS 18120'
BEARING GL.
Chilkat VILL.
C. Suckling
C. St. Elias
C. Yakutag
Icy C.
MALASPINA GLACIER
100 Fathom Curve
SITKA 450 MILES
A S K A
MACKENZIE RIVER
ROCKY MOUNTAINS
PELLY R.
PT. FRANCES
LIARD R.
TESLIN L.
DIXON ENTRANCE
CENTRA
COOK INLET a
in
Klondike, White, Tan
J.B
20 10 0 20
Compiled from latest
Sources. U. S. C. & G. Sur
Gov. of Alaska 1897. Alle
and best exi
144°
143°
142°



MAP
of
ENTRAL ALASKA
K INLET and COPPER RIVER
including
ike, White, Tanana, and Minook Rivers.

by

J.B. TYRRELL

1898

Scale

10 . 0 20 40 60 80 100 MILES.

iled from latest information and Official
es. U.S.C.&G. Survey. U.S. Geol. Survey. Report of
Alaska 1897. Allen, Schwatka, Ogilvie, Dawson,
and best existing maps of others.

58°

140°

bankers, lawyers, physicians, ministers of the gospel—and even Federal and State officials were so charmed by the alluring picture drawn by the press that they resigned their positions to undergo the hardships of the perilous journey to the Klondike, presumably to engage in the arduous labor of mining. While it was evident that the mass of matter on the subject appearing in the daily press contained much that was exaggerated and untrue, yet it was recognized that truth also pervaded the stories that were told, for the amount of gold brought by the miners from the Yukon indicated beyond doubt that a strike of extraordinary character had been made. The demand at Washington from all parts of the country for authentic information on the subject had become so great by the latter end of July that the Commissioner of Labor felt impelled to make an official inquiry relative to the condition of affairs in the Yukon gold fields, and the writer was ordered to make the investigation, in accordance with the following letter of instructions, of date July 29, 1897:

You are hereby assigned to duty in Alaska and British America for the purpose of making an investigation relative to the opportunities which the gold regions in the Yukon Valley and adjoining territory afford for the remunerative employment of American labor and capital. Please proceed at once to Circle City or Dawson City, as may be most practicable. Your study of the conditions in the recently discovered gold fields and the surrounding country should be thorough, and so conducted as to enable you to ascertain full and complete information as to the means and expense of reaching such localities, the demand for labor, rates of wages, cost of living, etc., and also the extent and value of the present workings and the best localities for settlement. Your inquiries should include not only the gold fields and vicinity, but such other localities in Alaska as are affected by the gold discoveries. You should keep constantly in mind that the chief purpose of the investigation is to ascertain what avenues are open for the employment of labor and the conditions under which such employment can be secured.

Your report should be made at the earliest possible date consistent with a thorough and exhaustive examination along the lines indicated and in the territory assigned to you.

Please keep the Department fully informed from time to time as to the progress of your work, bearing in mind any unusual developments which may occur in the gold fields, in order that the people in this country may receive prompt and authentic information in relation thereto.

This report embodies the result of the investigation made under the above letter of instructions.

THE TRAILS.

There are four principal trails that were traveled to a greater or less extent by those going to the Yukon gold fields during the past season.

The first that will be considered is the Stikeen route. Disembarking from the ocean steamer at Wrangell, the traveler takes a river

steamboat at that place and ascends the Stikeen River to the town of Telegraph, about 150 miles from Wrangell. The fare is $10, with an allowance of 100 pounds of baggage. From Telegraph to the head of Lake Teslin there is a portage of 122 miles, and during the past summer pack horses were used on the trail, the charge for packing being 17½ cents per pound. At the head of Lake Teslin there is an abundance of timber for the construction of boats, but as there is no sawmill it is necessary for travelers to whipsaw lumber and build their own boats. It is reported that a sawmill will be in operation there in the spring. Lake Teslin is 104 miles long, and is the source of the Teslin (Hootalinqua) River, which enters Lewes River 128 miles above Five Finger Rapids, the distance from the head of the lake to Dawson being 584 miles. The principal advantage of this route is that it avoids the Grand Canyon and the White Horse Rapids, but on account of the long portage it was chosen by comparatively few gold seekers during the past season, probably not over one hundred in all. It is authentically stated that the Canadian Government is constructing a wagon road from Telegraph to the head of Lake Teslin and that Canadian capitalists are building two small steamers during the present winter for service from the head of the lake to Dawson, expecting to have them ready for traffic on the opening of navigation in the spring.

The Chilkat or Dalton trail leaves Lynn Canal at Pyramid Harbor, the mouth of the Chilkat River, and ascends that stream about seventy-five miles, to the summit of Chilkat Pass; thence passing through low, bald hills and across rolling prairies to Fort Selkirk, five miles below the mouth of the Pelly and about 325 miles from Chilkat Pass. The old Dalton trail, which has been practically abandoned, strikes Lewes River just below Five Finger Rapids. The Dalton trails were used by cattle drovers during the past season, one herd having been taken in by the old route, and a few miners passed over the new trail with pack horses. There are quite a number of deep streams to cross, it often being necessary during high water to swim them. This is considered by many practical men to be the most feasible route for a railroad to the Yukon.

The Skagway River enters Lynn Canal near its head, about five miles by water below Dyea. The Skagway trail, the favorite route of the Canadians, follows the river to the summit, a distance of about twenty miles, and thence through a succession of hills, bogs, and meadows to Lake Bennett, the distance from Skagway Harbor to the lake being about forty-five miles. For four miles from Skagway there is a fairly good wagon road, and freight is transported that distance in wagons. At this point the trail ascends the mountain side, traversing precipitous, rocky hillsides eight miles, and then crosses the river and continues its course on the opposite side of the stream to the summit. On August 22 there were about 4,000 men and 2,000 horses on this trail, and but few had succeeded in getting past the summit with their outfits on account of its miry condition. The price

for packing to Lake Bennett was 30 cents per pound, and horses were selling for from $150 to $300 a head. The price of hay was $360 per ton, and Klondike prices prevailed generally, a pair of shoes costing $10, woolen mittens $3, and other articles of wearing apparel in like proportion. The town of Skagway had a temporary population of about 1,000, there being a few buildings constructed of rough lumber, while most of the people were living in tents. A town site had been located and surveyed, and the place possessed all the characteristics of a boom town on the Western plains. The steamers arriving at Skagway discharged their passengers and cargoes by means of lighters, there being no wharf and the harbor being very shallow near shore. The tides being high here, freight landed on the beach at low tide was frequently caught by the incoming tide before it could be transported to a place of safety, and in this way much loss occurred. The agents of the steamship companies made no effort to avoid such disasters to the property of their patrons, their entire energies being strained to the utmost to unload their vessels as quickly as possible in order to get them back to the lower ports, where thousands of people were anxiously awaiting their turn to be treated in like manner. The steamship companies were building a wharf, and it is probable that the state of affairs described will be improved by the season of 1898. During July Dyea was made a subport of entry, but, as Skagway has a deeper harbor than Dyea, most of the vessels landed their cargoes at Skagway and the United States customs officials made their headquarters there and were actively engaged in collecting duties on unbonded Canadian goods. There were many vigorous protests from the Canadians against what they considered the injustice of taxing goods which were simply in transit through a narrow strip of American territory for consumption on British soil, and they especially complained of the $30 duty being charged on horses, many of which had cost in British Columbia less than the amount of the duty imposed.

The Chilkoot or Dyea trail is the overland route to the Yukon that has been most generally chosen during past years by gold seekers, and a very large proportion of those who succeeded in getting to the gold fields last summer went in by this trail. The best time to start from Dyea is between the middle of March and the last of April, as it is then comparatively easy to transport outfits by means of sleds to the foot of Lake Bennett, or even farther, where good timber for boat building can be found in abundance. By adopting this course the tedious and difficult trip over the Chilkoot Pass, and the voyage through the lakes, after the ice breaks up in May, are avoided, the journey being made through the canyon of the Dyea (Taiya) River. Parties of three or four should be organized, as one tent and camp outfit, whipsaw, etc., will suffice for all.

The customary rate for packing from Dyea to Lindeman has been 14 cents per pound, but during the past summer it rose to 47 cents, the rate on August 23 being 38 cents. These high rates were the result of

the voluntary bids for the services of packers by men of means who were anxious to get to the Klondike without delay, the Indian packers, having once received an advance price refusing to work for the old rate. These prices were practically prohibitory to gold seekers of ordinary means, and they were obliged to pack their supplies themselves, many of them having been six weeks on the trail and not having yet succeeded in getting their outfits over. The average load of a white packer was 100 pounds, and it required four days to make the round trip to Lake Lindeman, a distance of twenty-seven miles. On August 23 there were about 1,000 men on the trail en route to the Klondike, and about 250 Indians and 100 white men were engaged in packing. About 150 head of horses were in use, packing as far as Sheep Camp, fourteen miles from Dyea, starting from the ferry, to which point freight was transported in wagons. Canoes were used for carrying outfits to the head of canoe navigation, six miles from Dyea. The Indians, as a rule, packed direct from Dyea to Lindeman, carrying from 100 to 220 pounds each, while the white packers were generally employed from the head of canoe navigation and from Sheep Camp to transport the freight carried to those points by canoes and horses, their packs ranging from 75 to 150 pounds. Freight and passengers for Dyea are landed on the beach in the same manner as at Skagway, and much loss occurred by the washing away of supplies by the incoming tide. The cost for transporting freight from the beach to the village of Dyea, about two miles, was $5 per ton. A first-class outfit for one man weighs from 1,200 to 1,500 pounds, costing from $150 to $200 at Seattle or Juneau, and no one should venture into the interior with less than the smaller weight named.

The details of the journey from Dyea to Dawson are given in the form of a diary, commencing August 23, 1897, as it is thought that they can best be presented in this way.

August 23.—Started from Dyea for Lake Lindeman with four Indians—Sleepy Tom, Right Eye, Slim Jim, and Chilkat Jack—each with a pack of 100 pounds; rate, 38 cents per pound. It had been threatening rain all the morning, and it was with great difficulty that the Indians could be induced to move. Finally, at 11 a. m., they were prevailed upon to set out, and they disappeared in the woods up the trail, while their victim struggled into the pack straps containing his valise, rubber boots, rifle, and oilskin, the entire weight of the pack, according to the scales, being forty-seven pounds. Followed Indians as rapidly as possible, but could not catch them. Evidently good walkers. After proceeding about three quarters of a mile became convinced that the Dyea scales required adjustment, as the pack seemed to weigh much more than forty-seven pounds. Met a little Indian boy returning from the ferry with a small cart. As he was evidently in the freighting business, a proposition was made to him to transport pack to the ferry, which he agreed to do for $1. Arrived at ferry, one mile from Dyea, at 11.30.

The river at this point is about 200 feet wide, being very swift and deep. Discharged freighter and crossed the river; ferry charge, 50 cents. Was informed that four Indians had just left, and that they could not be more than 100 yards ahead. Proceeded up the trail, and about half a mile above the ferry caught up with a Cœur d'Alene miner with two pack horses. Having had but little experience in packing, he was having trouble with his packs, which frequently came in contact with the trees on the narrow trail. One horse was unevenly loaded, with a 100-pound gunny of flour on one side and fifty pounds of beans on the other. The miner suggested that the valise would just about balance the pack, and he was allowed to use it for the purpose suggested. Proceeded without further trouble to the head of canoe navigation, six miles from Dyea. The trail from the ferry to this point winds through the woods and along a dry channel of the river. In the woods the traveler has his first experience with Alaska muck and roots. In many places the trail is cut to a depth of eighteen inches, and every few feet an uncovered root extends across the pathway, requiring a species of pedestrianism akin to walking in a row of bushel baskets. Where the trail follows the old river bed there are alternate stretches of sand and cobblestones, rendering progress exceedingly slow and fatiguing. The river is crossed three times between the ferry and the camp at the head of canoe navigation, it being necessary to wade the stream at the first and second crossings, where the water is from two to three feet deep and very swift, while at the third crossing there is a good footbridge. Arrived at the camp at head of canoe navigation at 3 o'clock. There are twenty-five or thirty tents here. Bade a reluctant adieu to Cœur d'Alene miner and employed Indian packer to carry valise to Sheep Camp, eight miles farther up the trail, being obliged to accede to his demand for compensation at 100-pound rate, or $10 for the eight miles. The trail follows the dry channel for two or three miles and then ascends the precipitous side of the canyon, it being necessary in many places to climb to a height of three or four hundred feet above the river, only to descend a steep incline and scale another hill worse than the last. In the ravines and lowlands there is always a bed of muck, produced by decayed vegetation and the washing down of the soil from the steep hillsides by the heavy and almost incessant rains. The worst places have been corduroyed at an expense of several thousand dollars. Many Indian and white packers are met on the trail, returning to Dyea. Inquiry of the one or two white packers from whom any reply whatever could be extracted, elicited the information that four Indians had been met just this side of Sheep Camp. Sociability is at a discount on the Dyea trail. Your respectful greeting of "good afternoon" is received by an Indian with a grunt and by a white man with a surprised stare that makes you feel that you have committed a grave breach of etiquette, and you soon learn to keep your mouth shut, except to catch your breath on the steep inclines. Arrived at Sheep Camp at 7 o'clock.

There are probably 150 tents here, and a temporary population of 300 or 400. The camp is located on the banks of the Dyea River, which is here a rushing torrent 30 or 40 feet wide. Mountains of Alpine grandeur rise on either side, and the gorges are filled by glaciers which discharge into the river in numerous waterfalls. On inquiry at the Indian camp it was learned that Sleepy Tom & Co. had gone on to Stone House, two miles farther up the trail. Stayed for the night at the Palmer House, the largest hotel in Sheep Camp. This structure, which is the most imposing in the place, is constructed of rough boards, and is about 25 by 50 feet in size, having but one story containing one room. About one-fourth of the rear portion is partitioned off by means of a calico portiere, and is used for kitchen and general living room of the landlord and family. Application for supper was met by a statement from the landlord that he had fed 500 people during the day, and that everything was eaten up; but a somewhat prolonged appeal resulted in the production of two biscuits, a slice of bacon, and a cup of tea, the charge being 75 cents in advance, this requirement being based on the absence of heavy baggage. During the evening the landlord related some incidents in his career. He had farmed and reared children in Wisconsin, until the hard times and the needs of a large family drove him to Seattle, but unfortunately he struck that town in the wane of its boom, and after struggling against fate for a year or two he decided to try his fortunes in the frozen North. He arrived at Juneau in May with his wife, seven children, and $8. His grit was of a kind that gained the good will of kind people in Juneau, who made it possible for him to come to Dyea, with his two half-grown sons, to engage in packing on the trail. After some weeks of most exacting labor he found himself financially equipped to cater to the Sheep Camp needs, and, assisted by his wife and seven children, has since been doing a large and profitable business. The sons are still packing on the trail and making from $10 to $15 a day apiece. So much for clear grit and a staunch heart. Some forty of the guests were accommodated with lodgings on the floor, each furnishing his own blankets. Was invited to share the blankets of a gentleman who had been confined to the hotel for two or three weeks on account of a broken ankle.

August 24.—Landlord refused payment for lodging, and even apologized for the lack of accommodations. This fact, even without the knowledge obtained in the conversation last night, stamps him as a "cheechako." (*a*) After breakfast employed packer to carry valise to Lake Lindeman at a cost of $16, and at 8.30 a. m. proceeded on the way in a drizzling, cold rain. At the foot of the Chilkoot Pass, four miles from Sheep Camp, which point was reached at 10.30, a large number of white men and Indians were camped, many of whom had attempted to cross,

a A Chinook word meaning "newcomer," and having the same signification as "tenderfoot" on the upper Missouri. It is applied to everyone who has not passed a winter here.

but had cached their packs and returned. They stated that a terrific storm was raging on the summit and that it was impossible to get over. On inquiry, it was learned that Sleepy Tom and his party had reached the summit last night, and as it was necessary to be at Lindeman in order to receive outfit and pay them off, it was decided to attempt the journey. The rugged slope of the Chilkoot loomed up at an angle of 45 degrees, disappearing in the clouds and mist a hundred feet above. The trail leads up rocky ledges and along smooth bowlders, some of which are fifty feet in length, and across the face of glaciers many acres in extent, and in places skirting precipices projecting over gorges hundreds of feet in depth. There is no vegetation above the foot of the pass, and in the absence of trees and shrubs, which abound along other portions of the trail, the only recourse in case of a slip or stumble is to catch at the rocks, which in their wet condition offer a poor hold for the hand. A number of packers were met high up on the trail, who stated that it was dangerous to go on; that they had gone nearly to the summit, but were forced to return on account of the storm. By this time the rain had turned to sleet, and, as the wind was blowing a hurricane, it cut the face like needles and rendered the pathway exceedingly slippery and the footing uncertain. Fortunately, when about two-thirds of the ascent was accomplished, the wind shifted to the west, coming up the pass and greatly assisting progress. On account of the great exertion in climbing the steeps, was obliged to stop at frequent intervals for a breathing spell; but the moment the exertion ceased a chill ensued, making it necessary to move on to avoid freezing. Reached the summit at 11.30, having been one hour in making the ascent, wet to the skin, with shoes full of water, and chilled to the marrow. From the summit to Crater Lake, a distance of one and a half miles, the descent is steep and the trail slippery and treacherous. Arrived at Crater Lake at 1 p. m., and found that the ferry was not running on account of the high wind, making it necessary to proceed by way of the trail. At 2 o'clock reached Happy Camp. Applied at half a dozen of the score or so of tents for a cup of coffee, but was refused, although in each case payment was tendered. A man with a pile of grub six feet high in front of his tent declined to part with enough of it, even for pay, to enable a fellow-traveler to reach his own outfit a few miles farther on. Seemed to be possessed by a fear that next year, about June, perhaps, he was liable to run short of some luxury. Reached the foot of Long Lake, three miles from Lindeman, at 4 o'clock. Quite a number of tents here. Applied at one for a cup of coffee, and received a hearty invitation from the three occupants, all sturdy young men from Montana, to join them in the meal they were preparing. An attempted apology for the intrusion met with the unanimous assurance from the young men that none was necessary, as they had themselves but ten minutes before taken possession of the tent, which they had found unoccupied. After a sumptuous dinner of baking-powder biscuits, bacon, beans, and coffee, a

letter was written to the owner of the tent, thanking him for his hospitality, signed by his four guests, and left on the grub box. Arrived at Lake Lindeman at 7 o'clock. The camp at the head of the lake contains about fifty tents and a temporary population of 200. Sleepy Tom et al. not yet here. Situation somewhat discouraging; no blankets, no food—nothing but wet clothes and a bad cold. Made the acquaintance of two brothers from Juneau, and on statement of circumstances was invited to share their tent, given a change of clothing and half a teacupful of Hudson Bay rum, and put to bed. Opinion of the people on the trail improving.

August 25.—Spent the day in inspecting the camp. Fifteen boats are in course of construction, whipsawed lumber being used. Logs are getting scarce, it being necessary to go two or three miles across the lake to get good ones. Lumber is selling for $500 a thousand at the sawmill at Lake Bennett, eight miles below. Boat large enough to carry three men sold to-day for $375. Prices of all articles practically prohibitory for men of ordinary means. Flour and bacon cost $50 a hundred laid down here, and can scarcely be bought at any price. Good pair of shoes costs $15. Two men working together, whipsawing lumber, sell their day's product for $50, and packers receive as high as $25 a day and board. Has been raining steadily all day, and it is reported that there is a bad storm on the summit. No Indians have crossed the pass since the 21st.

August 26.—Still raining. No Indians.

August 27.—Right Eye arrived at 9 a. m. Brings letter from postmaster at Dyea, stating that Sleepy Tom, Slim Jim, and Chilkat Jack are still there; that the four Indians had come only half a mile or so on the 23d, and then took to the woods and went back home to await good weather. Still raining, but barometer indicates clear weather.

August 28.—Sleepy Tom and Slim Jim arrived at 9 a. m., with packs containing blankets and typewriter. Typewriter in bad condition, sole leather case having collapsed on account of the soaking rain. Should have been packed in a box. Have made arrangements for passage down the river. Construction of the boat begins to-morrow, and hope to be ready to leave within three days. Secured hind quarter of caribou to-day; price, 50 cents per pound. An improvement on bacon. Weather has cleared up, and seven boats got away to-day. Seventy-five Indian packers and about fifty white men got over to-day. They report that the summit has been impassable for three days. The price of packing has increased to 40 cents per pound. Whisky selling to-day for $8 a bottle, and reported not a very good article at that.

August 29 (Sunday).—Last pack got in at 11 a. m. Chilkat Jack jumped his contract, and postmaster at Dyea employed Tagish Tom as a substitute. Tom somewhat under the influence of Long Lake whisky, but got here just the same. Man with 26-foot boat on Long Lake is making $250 a day ferrying freight down the lake. Left at 11 a. m. for

Lake Bennett in Peterboro canoe. Outfit of entire party, weighing 4,000 pounds, was ferried to the foot of Lake Lindeman, six miles, for $30. The lake is a beautiful sheet of water, about six miles long and one mile wide. It empties into Lake Bennett through a very crooked and narrow stream, full of rocks and rapids, and dangerous for boats. It is necessary to make a portage of three-quarters of a mile to the head of Lake Bennett, boats being let down through the swift stream by means of ropes. Reached the foot of the lake at 12.30 p. m., made the portage, and camped at the head of Lake Bennett at 5 p. m. Wages and prices at Lindeman and Bennett to-day: Whisky, $8 a bottle and 50 cents a drink; bacon, $1 per pound; flour, $80 per hundred; dried fruit, $50 per hundred; beans, $50 per hundred; tobacco, $2 per pound; fish and game, $1 per pound; nails, $1 per pound; horse shoes, $5 apiece; horseshoe nails, $1 apiece; boots, $18; shoes, $12 to $15; wages of boatbuilders, $15 a day and board. Many packers are making from $25 to $30 a day. About 200 people are camped here, there being forty or fifty tents scattered along the lake shore. The Skagway trail ends here. About 100 men have succeeded in getting their outfits to Bennett by the Skagway route. It is reported that the trail has been much improved, and that many hundreds will get over in the course of the next fortnight. The price of packing on the Skagway trail has risen to 60 cents per pound.

August 30.—Raw and cold, and a drizzling rain fell all night. The temperature is getting lower and lower; 45 this morning. It has been snowing on the mountains for two or three days, and the snow line is creeping toward the valleys at the rate of 500 feet a day, it now being about 3,000 feet above sea level and 1,000 above the valleys. Learned to-day that the man who has been building boat at sawmill two miles across the head of the lake has been sick and made no progress. Nominal price of lumber at sawmill, $500 a thousand, but it is impossible to secure any, as the proprietors require their entire output (800 feet per day) for the construction of boats already contracted for. Two-ton boats selling to-day for $350 and $400. Rained all day, with cold wind from the north.

August 31.—Met sergeant of the Northwest mounted police, who is here with a pioneer party of seven men for the purpose of building boats for the transportation to Lake Tagish and Dawson of six officers and twenty men of the force now coming over the Skagway trail. Received from him first authentic information relative to the customs station just established at the lower end of Lake Tagish. A customs collector of the Dominion Government has passed down the lakes and is expected to begin the levy of duties to-morrow on all unbonded American goods passing his station. The following rates are to be charged: On hardware, from 30 to 35 per cent ad valorem; provisions, from 15 to 20 per cent; clothing, from 20 to 25 per cent; tobacco, 50 cents per pound. Miners' blankets, clothing in actual use, and 100 pounds of provisions

will be allowed in free. Apart from these exemptions the duty on ordinary outfits will average about 25 per cent. Still raining, with sharp north wind, and snowing in the mountains.

September 1.—Still raining, with cold wind blowing from the north. Five boats came down from Lindeman to-day. Our boat will be completed to-morrow.

September 2.—Eight boats started down the lake to-day. Weather very favorable, the wind blowing from the south. Rained during the afternoon. Have just learned that the mounted police, by right of eminent domain, made a demand to-day on the proprietors of the sawmill for its entire output until their boats are completed. This will delay us several days.

September 4.—Rained all day yesterday, but is clear to-day, with south wind. Seven boats passed down Bennett to-day. A very large proportion of those passing down the lake are poorly outfitted, many having less than 500 pounds apiece. About forty men have come down over the Skagway trail with their outfits during the past three days, and report that many more are this side of the summit. Day closed with drizzling rain.

September 5.—Still raining, with a strong north wind, and fifteen or twenty boats are held up, waiting for fair wind. Boat is completed all but the calking, which will be done to-morrow. Price of packing on the Dyea trail has risen to 47 cents a pound, an increase of 9 cents during the past ten days. Ferrymen on the lakes are making from $250 to $350 a day apiece. The price of boats has risen to $500.

September 6.—Boat came over from the sawmill at 7 o'clock in the evening. She is 26 feet in length and 8 feet beam on top, 22 feet in length and 5 feet beam on bottom, and 28 inches deep, and will carry with ease five men and 5,000 pounds. Builder was offered $800 for her by another party. Start down the lake to-morrow.

September 7.—Started for the north at 7 a. m. Weather delightful, but no wind. Four men at the oars. Reached Division Island, halfway down the lake, at 12 o'clock, and camped for dinner. Got under way at 1.30. Bennett is twenty-six miles long, with an extreme width of five miles. Mountains rise abruptly from the water on either shore, some to a height of 8,000 feet. There are twelve boats in sight, forming a procession five or six miles long. At 2.30 a stiff breeze sprung up from the south, the 10 by 12 tent was hoisted as a sail, and at 6.30 p. m. the boat entered the outlet of the lake, and a camp was made for the night at Caribou Crossing, which received its name from the fact that the barren-land caribou cross here in their migration south in the fall and return in the spring. A flock of 950 head of sheep here awaiting the construction of scows to transport them to Dawson. Two double-decked scows, 18 by 40 feet, are being built. The sheep were driven in over the Dyea trail. The start was made with 1,000 head, and they reached Lindeman in six days. After

grazing a few days at Lindeman, they were driven down the east bank of Lindeman and Bennett to this point, the journey occupying six days, and forty head being lost en route. Sixteen men are employed, and there are about twenty head of horses in use.

September 8.—Left Caribou Crossing at 7.30 a. m., and within an hour were well into Lake Tagish. Windy Arm comes into the lake from the south, about three miles from Caribou Crossing. Opposite the mouth of Windy Arm are three islands, and the arm itself is inclosed by high mountains covered with snow, now burnished by the sunshine to a dazzling brilliancy. The guidebooks state that a strong wind is always blowing through Windy Arm, but it is not blowing this morning, and the oars are in use. Boats should keep to the right-hand side until the arm is passed. The eastern shore of Tagish is bordered by high mountains of limestone, and on the western shore there is a wide stretch of well-timbered lowlands, rising to a range of high hills seven or eight miles from the lake. Camped for dinner at 1 p. m. on the west shore, about ten miles from Caribou Crossing. Went into the woods to look for signs of game. Many moose and wolf tracks were found, but they are three or four weeks old, indicating that we are too late for fresh meat. Got under way at 2 o'clock. Good breeze sprang up from the south at 3 o'clock, sail was hoisted, and at 6 came in sight of the Union Jack of the customs station at the foot of the lake. Made landing at station at 7 o'clock. Found seven or eight boats tied up here, undergoing inspection. Courteously received by the collector. Station opened for business September 1, receipts up to date averaging $1,200 per day. Collector stated that he was making it as light on the boys as his instructions would permit, and that, while the duty on some articles was pretty high, he was happy to say that there was nothing in his schedule quite as oppressive as the $30 duty being charged by the United States collector at Skagway on broken-down Canadian cayuses. Proceeded down the river about a mile and camped for the night in a beautiful piece of woodland. Pitched tent alongside that of a party of Black Hills miners. They completed their transaction with the customs officials two hours ago, and are still talking about it. They were required to pay $80 on a two-ton outfit.

September 9.—Broke camp at 8 a. m. Lake Tagish and Marsh Lake are connected by a broad stream, with slow current, known as Six Mile River. There are lowlands on either side, covered with a growth of cottonwood and white spruce. At 8.40 passed Tagish Houses, a collection of log houses on the right-hand bank of the river. The Indians hold their annual festivals here, and have a burying ground and crematory at the upper end of the village. Entered Marsh Lake at 9 a. m., under full sail in a stiff breeze. The lake is twenty miles long, with an average breadth of two miles, and is very shallow, being bordered by low, marshy lands, from which it derives its name. Had a five-mile breeze the entire length of the lake, arriving at the foot at 1.15 p. m. Weather

delightful, like an October day on Minnetonka or Lake George. Six or seven miles below Marsh Lake high-cut banks are encountered, in many places from 50 to 100 feet in height. The faces of the banks are honeycombed by millions of holes, which are the homes of bank swallows during the summer, but are now deserted. Camped at 3.30, on account of heavy rain, about ten miles below Marsh Lake. Party of six Colorado miners, with two boats and five tons of provisions, landed at 5 o'clock and camped for the night. Report that they were required to pay $115 in duties at Treish, and as the high rate of packing on the trail had made their funds run low they were obliged to part with a portion of their flour and other supplies to appease the collector. This unexpected and therefore unprepared-for levy is working great hardship, and is productive of many decidedly one-sided tariff discussions.

September 10.—Started at 7.15 a. m. Fifteen miles to the Grand Canyon. Some nervousness aboard. Weather delightfully cool and air exhilarating. Easy to imagine we are floating down the Hudson on a bright October day. High-cut banks on either shore. River from three to four hundred feet wide and very deep, with a three-mile current.

10.30 a. m.—The current has increased to five miles an hour, with frequent riffles. One of the party, who has been down the river before, says that it is only three miles to the canyon. River narrow and deep, and current increasing.

11.00 a. m.—A board nailed to a tree and displaying the word "Stop!" indicates that we are approaching the canyon. Boat keeps close to the right-hand bank here.

11.12 a. m.—The canyon is in sight, a quarter of a mile away. The river just above the entrance to the canyon, which suggests the Gateway to the Garden of the Gods, is six or seven hundred feet wide and presents the appearance of an immense milldam. There is an eddy on the right, where half a dozen boats are moored to the shore for the purpose of making the portage. With one man at the helm and two oars working, the boat swung far out to the left and entered the canyon straight down the center, riding the crest of the rapids like a duck. Held watch and timed the passage through the canyon, the distance of three-quarters of a mile being made in 3 minutes and 20 seconds, indicating a current of about thirteen miles an hour. Shot the rapids below the canyon and landed on left bank, just above the White Horse Rapids, for dinner. The canyon, which is from 60 to 100 feet in width, is formed by perpendicular walls of basaltic rock from 50 to 100 feet high. About half way through there is a whirlpool about 100 feet in diameter, and it is necessary to keep at work on the oars to prevent the boat from being caught in the circling waters. There is a skidway to the right of the canyon, and many transport their boats and cargoes over this portage of one mile in preference to shooting the canyon. There are about twenty boats and perhaps one hundred

people at the canyon and the rapids, making the portage. Took the opportunity during the dinner hour to walk down to the head of the White Horse Rapids, two miles below the canyon. The river makes an abrupt turn right at the head of the rapids, making it difficult to strike the crest. Anyone who is ambitious to shoot the rapids, except as steersman, is advised to forego inspection of them in advance, as the sight in most cases results in a decision to make the portage instead. The rapids are about half a mile long, and the immense volume of water, with swirling and high-breaking waves, sweeps down the incline at a speed of fifteen miles an hour. The river, which is 300 feet wide at the head of the rapids, contracts to forty at the foot, where the confined waters rush through the narrow gateway with foam-crowned turbulence and then sweep on with a seven-mile current for a few hundred yards, finally resuming their placid course. There is a short portage at the rapids and a skidway for boats, which are used by most voyagers, but very few attempting to shoot the rapids with full cargo. At the head of the rapids scores of trees have been denuded of their bark and the trunks covered with hundreds of names of those who have passed down the river, many inscriptions five or six years old being still decipherable. Notices on the bulletin board indicate that from six to fifteen boats per day have shot the rapids during the past ten days. There has been but one accident in that time, and that was in the case of a boat which the timid owners attempted to let down through the rapids by means of ropes, the boat being dashed to pieces on the rocks. Several graves at the rapids. There are a number of experienced river men here engaged in taking boats through the canyon and the rapids, their charge for services being $25 per boat. On the bulletin board was a notice, signed by a party of five men from San Francisco, to the effect that they had shot the rapids the day before without portaging a pound of cargo, accompanied by the statement that theirs was the only boat out of thirteen that had accomplished the feat. This party had landed below the rapids and sent one of their number back to post the notice. Our steersman read the notice and wrote immediately below it, "We did the same September 10," signing the names of our party. Started through the rapids at 1.07 and shot them successfully, shipping only about a barrel of water and passing down the river without stopping. Camped for the night at the mouth of the Tahkeena, sixteen miles below the White Horse Rapids. The Tahkeena, which comes from the west, is about half as large as the Lewes and has a sluggish current at its mouth.

September 11.—Left camp at 7.30 a. m. Beautiful, bright morning. Current about four miles an hour. Reached the head of Lake Lebarge, fourteen miles below the mouth of the Tahkeena, at 10 a. m. A few miles below the Tahkeena the valley becomes very broad and the river breaks into many channels, with sluggish current. Kept the left-hand channel and entered the lake at 10 a. m. The lake is thirty-one miles

long and seven or eight miles wide at the island, about ten miles from the head, having an average width of about five miles. Its elevation above sea level is about 2,100 feet. Along the eastern shore, for a distance of six or eight miles from the upper end of the lake, there are gently sloping uplands, covered with timber and terminating in bald hills of a height of a thousand feet or more, forming the foothills of a high range of mountains running parallel with the lake. Farther down the lake limestone bluffs rise abruptly from the water's edge and become high mountains in the distance. On the west shore the hills are generally well wooded. Lebarge is frequently swept by strong winds for days at a time, and when the wind is from the north it is often an impossibility to get down the lake. It is the rule to follow the west shore to the island, as it is difficult to make a landing on the east shore in case of a squall. To the island had a fair south wind, which increased to a seven mile breeze al 2 p. m., and at 5.30 the boat entered the outlet at the northeast c f the lake. Camped at 7 o'clock on the west bank of the river, about six miles below the lake.

September 12.—This being Sunday, we decided to take a rest. Three of the party went into the mountains to the westward to look for moose. Returned at noon and reported many signs of large game, but two or three weeks old. A number of beautiful lakes were found five or six miles from the river, lying high in the hills. United States mail carrier passed up during the morning. Reports rich strike on Stewart River, prospects running as high as $72 to the pan. Brings first news we have had from the Klondike, stating that there is a shortage of provisions and that no new strikes have been made in the Klondike district. Carrier is traveling by the only means of getting out of the country by this route at this time of year—a poling boat, which is eighteen feet long and two and a half feet wide. The boat is propelled by means of a twelve-foot pole, it being necessary to keep in close to shore to avoid the swift current and get good bottom. A good poler can make about a mile an hour in the main river, but by taking advantage of sloughs and cut-offs can average from fifteen to twenty miles a day.

Broke camp at 1 p. m. Bright, warm day, with an exhilarating atmosphere. Current, which is about three miles an hour just this side of Lebarge, gradually increases to five or six miles. Quite a number of bad rocks in the river from ten to fifteen miles below the lake, and ten miles farther down there are rapids with an eight-mile current. Passed the mouth of the Hootalinqua or Teslin River, about thirty miles below Lebarge, at 5 o'clock. This river enters the Lewes from the southeast, and seems to be somewhat smaller than the Lewes. Camped at 6 o'clock about ten miles below the Hootalinqua.

September 13.—Started at 6.50 a. m. Ice formed in water bucket to a thickness of half an inch, and light fall of snow, barely covering the ground, during the night. Sharp wind blowing from the north. Cur-

rent four or five miles an hour. Passed the Big Salmon River, which comes into the Lewes from the east, at 11 a. m. Many flocks of cranes, barely visible as orderly changing lines of black far up the sky, are passing to the southward. Camped for the night about thirty miles below the Big Salmon.

September 14.—Ice formed to a thickness of three-quarters of an inch in the water bucket during the night, and there is film of ice on the sloughs. Beautiful sunny morning. Broke camp at 6.50. Passed Little Salmon River, which enters the Lewes from the east, at 7.50. For many miles below the Little Salmon the river is narrow and deep, being confined by high, wooded hills and having a four or five mile current. Landed at 1.15 p. m. at George W. Cormack's deserted trading post, located on the left bank, about forty miles below the Little Salmon. On this side of the river there is a table-land several hundred acres in extent, covered with bunch grass and a growth of scrubby fir, larch, willows, etc., and on the east side there are high rolling hills, partially wooded and becoming mountains farther to the eastward. The deserted store is a well-built cabin, about 16 by 24 feet in size. There are but two articles of furniture in the cabin—a large heating stove made of a coal-oil tank, and a pine table, minus one leg and occupying a semirecumbent position in a corner of the room.

Since 9 o'clock a cold north wind has been blowing, and the place is desolate beyond description. Stopped at 3.30 and ascended a high mountain on the right bank to a height of seven or eight hundred feet. The hillsides are covered with a luxuriant growth of bunch grass and wild oats, and thousands of grasshoppers wing their halting flight in the brilliant sunshine. A magnificent view of the surrounding country is here obtained. The river, six or seven hundred feet wide, sweeps with a five-mile current two miles to the northward and disappears round a high wooded mountain, while to the westward range beyond range of mountains, many covered with snow, fade to the horizon, a hundred miles away—10,000 square miles of forest-clad hills and intervening vales where the foot of a white man has never trod. Camped on the west bank, at the head of Five Finger Rapids, at 5 o'clock. These rapids are very swift, but short. There are three principal channels, divided by basaltic columns from twenty-five to forty feet in height. The right-hand and middle channels are generally chosen by boatmen. There is but little danger, if boat is kept to center of channel, although a number of boats have been swamped here.

September 15.—Very cold during the night, temperature falling to 24 degrees and ice forming to a thickness of an inch. Broke camp at 7 a. m., and shot the middle channel. Two miles below the rapids the old Dalton trail strikes the river. A signboard displays the words: "Dalton Trail; 250 miles to Chilkat." This trail has been abandoned for the new Dalton trail, which strikes the river at Fort Selkirk, about fifty-five miles below. A herd of sixty-four head of beef cattle are grazing

here, awaiting cold weather, when they will be butchered and taken to Dawson on rafts. Shot Rink Rapids, six miles below Five Fingers, at 8.45 a. m. Boat keeps to the right, where there is no danger, as the channel is wide and deep. Thirty miles below Rink Rapids passed party with three large rafts, which are being taken to Fort Selkirk for the purpose of transporting beef to Dawson. It was necessary to come this far up to get good logs. At the mouth of the Pelly, five miles above Fort Selkirk, hail two miners poling up the river. Their only reply is: "If you haven't plenty of grub, you had better turn back." Landed at Fort Selkirk, which is located on the west bank of the river, fifty-five miles below Five Fingers and 160 miles above Dawson, at 3.30 p. m.

There is a trading post here conducted by Harper & Ladue, and they have a number of good buildings. There is a large vegetable garden here, and about 150 head of cabbage are maturing in the open air. Between fifty and sixty bushels of potatoes were raised during the season. The Church of England has a fine mission here, but it is now deserted on account of the lack of supplies. There is quite a large Indian village at the upper end of the settlement. On the door of the store is the following notice: "Parties contemplating going out this season take notice that no provisions of any kind can be obtained here, except, possibly, a little moose meat, and dog salmon in small quantities for dog feed. No freight steamer has been here for two years. No flour can be had." Inside the shelves are barren, and the trader appeals to everyone coming down the river for a little flour and sugar. All the Indians, and even the post trader, have a lean and hungry look, and there is a world of pathos in the simple remark of the latter, "I don't know how we are going to get through the winter." A register is kept at the store of those passing down the river. There are 1,876 names on the register to-day, and about 500 have been counted who passed without landing, making a total of about 2,400 who have gone to the new gold fields by this route during the present season. Met three or four polers from the Klondike here, on their way to Dyea. One of them, a miner, who has been eight days in making the 160 miles from Dawson, displayed drafts amounting to $32,000, the result of eight months' work. States that he would have spent the winter on his claim, but that he was obliged to get out on account of the scarcity of provisions, leaving his partner in charge with their scanty stores. Jack Dalton has sixty-four head of cattle here, and Cameron, Franklin & Heaney have sixty head. Waiting for cold weather before butchering, and will then take beef to Dawson on rafts. They are selling beef for 50 cents per pound by the quarter. There are thousands of acres of good grazing land in this vicinity. Old Fort Selkirk, which was located across the river, two or three miles above the present post, was burned by the Indians in 1852, and the ruins of the chimneys can still be seen. It was one of the principal posts of the Hudson Bay Company in this region. Remained all night at the trading post.

September 16.—Broke camp at 6 a. m. We are now in the Yukon proper. It is about half a mile wide and very deep, with current of four miles an hour. Three miles below Fort Selkirk passed a flock of 600 sheep, which are grazing on the lowlands on the west bank of the river. Rafts are now being constructed for their transportation below. Owner hailed our boat and offered $15 a day and board to two men to assist him. Boys all declined, as they are seeking gold in the abstract rather than the concrete. On the east side of the river, extending for eight miles below the mouth of the Pelly, is a basaltic plateau, supposed to have come from a volcano twenty or thirty miles up the Pelly. It has a perpendicular front, five or six hundred feet in height, and is known as the Upper Ramparts. Passed several parties getting out logs for building purposes. Camped for the night at 5.30, about fifty miles below Fort Selkirk.

September 17.—Left camp at 7.15 a. m. Weather still delightfully bright and pleasant. Passed the mouth of White River at 12.30. White River, which comes into the Yukon from the west about ninety miles below Fort Selkirk, is a large stream, having a very swift current, and discharging into the Yukon an immense volume of water containing a white substance, supposed to be volcanic ash, that discolors the main stream for a long distance. Below the White River the Yukon breaks up into numerous channels, and there are many islands and sandbars. Looks here like the Missouri between Atchison and Leavenworth. Reached the mouth of Stewart River, ten miles below White River, at 3.10. Stewart River flows into the Yukon from the east, and is a broad, sluggish stream at its mouth. Quite a number of people from upriver have stopped here to get out house logs, as it is reported that they are selling for $300 a set in Dawson and are hard to find lower down. Several prospectors here, just returned from the Stewart River country. They report that nothing has been struck during the season on that stream or its tributaries. Mail carrier was evidently misinformed or unreliable. The *Koukuk*, a 10-ton stern-wheel steamboat, is tied up here. She has been three days in coming from Dawson, about seventy miles below. Has a half ton of flour and other provisions for Fort Selkirk, and the captain expects to reach that point in a week. If the *Koukuk* is a representative type of the Yukon steamboat, it would take no prophet to predict a famine. Captain offered $10 a day and board for men to make the trip to Fort Selkirk and return, but could find no one willing to work on those terms. He draws a gloomy picture of affairs at Dawson, stating that there have been no new strikes and that the country is filling up with people half provided with food supplies. Camped at 6 o'clock on the east bank of the river, about six miles below the mouth of the Stewart.

September 22.—Left camp at 8.15 a. m. Party has been getting out house logs for the past four days. Reached Sixty Mile Post, twenty-one miles below Stewart River, at 10.30, and stopped for a few minutes. The post is on the east side of the river, opposite the mouth of Sixty

Mile River, which comes into the Yukon from the west. There are some good placer creeks on the head of Sixty Mile, and about one hundred miners have been accustomed to winter here. Harper & Ladue own the trading post, which is now deserted on account of the Klondike excitement, being in charge of an Indian. The sawmill, which was formerly located here, is now in operation at Dawson. There is a fine vegetable garden here, and large cabbages have been raised during the season, while about 150 bushels of potatoes were raised and found a ready sale at Dawson for $1 per pound. Camped for the night at 6 o'clock, about thirty miles below Sixty Mile.

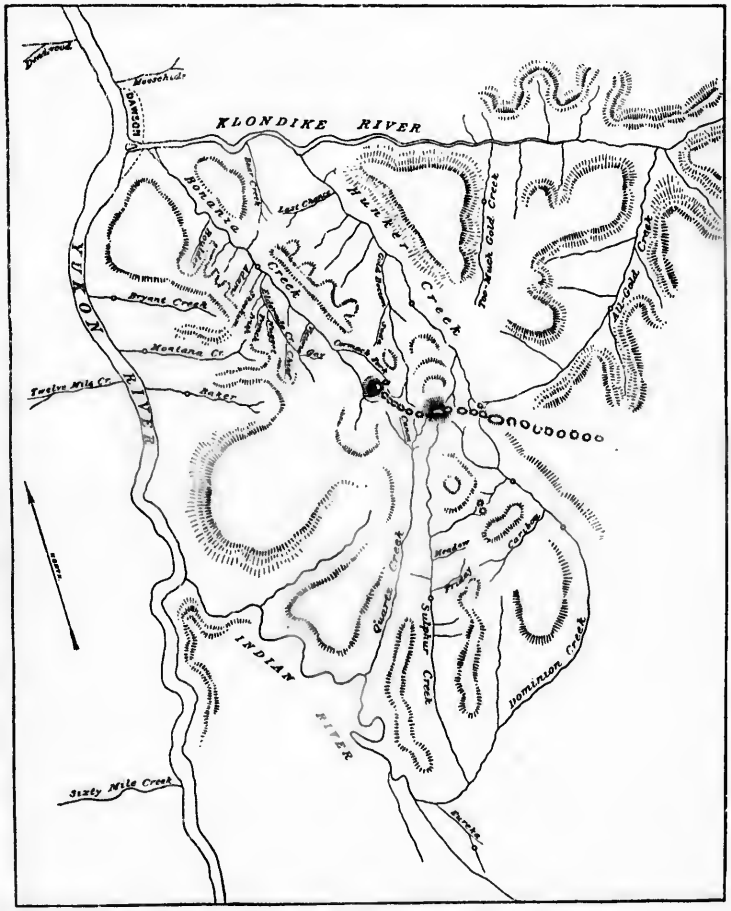
September 23.—Left camp at 8 a. m., and arrived in Dawson at 11 a. m. Landed at the upper end of town, which is located in a swamp and oppressively crude.

THE KLONDIKE.

The Klondike River enters the Yukon from the southeast, six miles above old Fort Reliance. It is about 150 miles long, and has its source in a high range of mountains which separates it from the Stewart River and its tributaries. At its mouth an island divides the stream into two nearly equal channels, each of which is about 150 feet wide and four or five feet deep, at a medium stage of water. The stream is very swift, and rapids occur at frequent intervals, making it exceedingly difficult to navigate with canoes. Its waters are clear and shallow. It has been known for many years as one of the best streams in the country for salmon fishing, and during the season large numbers of Indians camp on its shores for the purpose of catching and drying salmon. For several years gold has been known to exist on the main stream, but it has never been found there in sufficient quantities to justify working under present conditions as to cost of supplies.

The original discovery of gold in paying quantities in the Klondike district was made by George W. Cormack, who came to the Yukon country twelve years ago from Wisconsin, and who had been engaged in prospecting and in trading with the Indians and miners at various points on the river. On June 22, 1896, Cormack and Loren Cooper left Forty Mile for the mouth of the Klondike. It was Cormack's intention to spend the summer in fishing on the Klondike, while Cooper proposed to develop two quartz leads situated just below the mouth of that stream on the west side of the Yukon, and directly opposite the present site of Dawson. They were thus engaged in the early part of August, when Robert Henderson, an oldtime prospector, came down the Klondike and told Cormack that he had found on the headwaters of Gold Bottom Creek some ground that would pay 15 cents to the pan.

Cormack accompanied Henderson to Gold Bottom, but not being favorably impressed with the prospects, returned alone to the mouth of the Klondike, coming down the creek now known as Bonanza. On



KLONDIKE MINING DISTRICT, NORTHWEST TERRITORY.

his way back he prospected on various tributaries of Bonanza, and on the main creek itself, and, finally, at a point about twelve miles above the mouth, he found gold in sufficient quantities to justify him in locating, and on August 17, 1896, he staked two claims, as he was allowed to do under the law—one now known as "Discovery" and the other as "No. 1 below Discovery"—and gave to the creek the name it now bears. From Discovery down to the mouth of the creek he found fair prospects at various points on the bars and in the rims, panning out altogether $5 or $6 in coarse gold, the largest nugget weighing $1.10. Cormack informed Cooper and others of his discovery, and left on August 19 for Forty Mile for the purpose of recording his claims, which he did on August 26, 1896. Cooper, Edward Monahan, and Gregg Stewart staked on the 19th, locating the claims now known as 27, 28, and 29 below Discovery. William Stanton, on the 21st, staked what is now known as 13 below. In the meantime the news of the discovery had spread to Indian Creek, which flows into the Yukon from the eastward thirty miles above the Klondike, and fifteen or twenty men who were prospecting there left at once for the new diggings, while quite a number of men who were coming down the river in small boats were informed of the discovery and stopped to make locations. Three or four days after Cormack's arrival at Forty Mile a large number of men came up from that place in poling boats, and by September 1 there were 150 or 200 men on Bonanza and its tributaries seeking claims. By September 13 Bonanza had been staked to 45 above and 90 below Discovery, and as nothing of value could be found above or below those numbers many men were forced to prospect on other creeks. On the date named a discovery was made at the mouth of the gulch now known as Eldorado Creek, which comes into Bonanza from the south about a mile above Discovery, and in three or four days Eldorado was staked to 32. This creek, which was staked because there was no other ground in the immediate vicinity to be had, and which was not supposed to contain anything of special value, has proved to be far richer, though less extensive, than Bonanza, and is probably the richest creek, mile for mile, ever discovered in the world. In October about twenty men came up from Circle City on the steamer *Arctic*, and by April 1, 1897, some 800 had come up from that place, making the population of the Klondike district at the last-named date about 1,500. All who came into the district during the winter were compelled to bring their own supplies, as no freight was landed there by the commercial companies until early in the following June. A large proportion of the miners and prospectors lived in tents, only about thirty cabins being built on the gulches during the winter.

Up to November 3, 1896, no great strike had been made on either creek, but on that date rich ground was opened up on 21 above Discovery, on Bonanza. The first pan taken out immediately below the muck yielded 35 cents, and the next seven fires gave an average of $3.35 to the pan. From this strike dates the "boom" on the Klondike. At that time

Eldorado had shown no large prospects, but a few days later very rich ground was opened up on 14 and 15, as high as $18 being taken from a single pan. During the same month a big strike was made on 6, which yielded as high as $22 to the pan.

On Hunker Creek gold was discovered in September, 1896. This creek has developed some good properties, and in October, one month later, claims there were worth more than on Bonanza and Eldorado.

During the early part of the winter but little work was done on the gulches beyond the sinking of prospect shafts by the claim owners themselves, as it was impossible to induce men to work for wages. Every man who had an outfit believed that he could do better by taking his chances of finding a good claim than by working for the wages offered ($15 a day), and a large number of men spent the fall and the early part of the winter in prospecting the tributaries of the Klondike and Indian rivers and numerous gulches along Bonanza and Eldorado creeks. By the middle of January (1897) many of these prospectors had become discouraged through failure to find good claims and took "lays" (*a*) on Bonanza and Eldorado, and later a large number accepted employment for wages, principally on Eldorado. Drifting was prosecuted vigorously until the water began to run in the creeks, about May 7, when the work of shoveling the dumps into the sluice boxes was begun. Most of the dumps were exhausted within thirty days and many marvelous clean-ups made. On some claims the gold filled the riffles so rapidly that it was necessary, in order to save the gold, to clean up as often as twice a day. On 2 Eldorado, with four men shoveling in, $6,500 was taken out in one day. By the first week in June the winter's work was practically closed, and five months' active mining operations, conducted by a force of about 600 men, had produced an amount of gold which is conservatively estimated at $2,000,000. Work was continued through the summer on most of the claims, ground sluicing and shoveling in being actively engaged in on Bonanza until the creek froze up in the latter part of September, and on Eldorado until the latter part of August, when the water got too low to furnish a sluice head. The output for the summer brought the total product for the season up to about $3,000,000. Much "dead work" was done, consisting of removing the trees, stumps, moss, and muck, and in ground sluicing and otherwise getting ready for active operations the following season.

On September 30, 1897, Bonanza Creek had been staked above and below Discovery for a total distance of about twenty miles, while Eldorado Creek had been staked for a distance of about eight and a half miles, both being located for almost their entire length. These are all

a "Lay" is the term used by the miners to designate ground worked on shares. A lay usually consists of a strip fifty or one hundred feet in width, intersecting the general course of the stream at right angles and extending clear across the claim. The usual terms are an equal division of the output, the lessor paying all expenses of operation.

creek claims, 500 feet long, as a rule, measured in the direction of the general course of the stream, and extending in width from base to base of the hill or bench on each side. In making their original locations prospectors who were not provided with tapelines stepped off the distance and set their stakes at what they considered the limits of their ground. When the Government survey was made it was often found that more ground was claimed than the locators were entitled to, and thus "fractions" were created. There are quite a number of these on the various creeks, and some of them have proved very rich. At the above date there were also fifty bench claims on Bonanza and forty on Eldorado. The bench claims are 100 feet square and can not extend below the "base of the hill or bench." The Canadian mining regulations are not clear as to the line of demarcation between creek and bench claims, and as a consequence some dispute has arisen as to where the creek claims cease and the bench claims begin; but these disputes are generally amicably settled between the parties themselves.

The method of placer mining pursued in the Klondike district is somewhat different from that which prevails in the United States. The ground, which is covered with moss to a depth of from twelve to eighteen inches, is frozen solid from just below the moss to bed rock, which is generally struck at a depth of ten or fifteen feet, although in many places it is twenty-five or thirty feet below the surface. The heat of the sun, even in the hottest days of summer, when the thermometer registers 100 degrees in the shade, has no effect on the frozen ground until the moss is removed. Beneath the moss there is a deposit of decayed vegetation called by the miners "muck," which varies from two to twenty feet in depth.

Where the ground is very deep it is found more economical to sink a shaft to bed rock and take out the pay gravel by means of a windlass. This is called "drifting," and in many claims this can be done successfully only in the winter time, after the stream is frozen solid, as in the summer time the inflow of surface water and seepage from the creeks make it impossible to pursue this method. After stripping off the moss, the miner starts a shaft about three and a half by six feet, picking through the muck until the gravel is reached. He is then obliged to resort to "burning," as the best pick does not hold its point five minutes when used in the frozen gravel. A fire of cord wood is built on the bottom of the shaft, which thaws the gravel to a depth of about two feet. This thawed gravel is then shoveled out or hoisted by means of a windlass, and the process repeated until bed rock is reached. At this stage the "drifting" proper begins. Dry wood is piled against the wall of the shaft to nearly the height of the pay gravel and covered with sticks of green cord wood arranged with one end resting on the bottom of the shaft and the other leaning against the wall at an angle of 45 degrees. The green wood so placed is called "lagging," and serves the double purpose of confining the fire and catching the waste

dirt from above. At bedtime the fire is started and the miner retires for the night. During the night the heat causes the wall to cave, and the gravel which slides down over the lagging produces a smouldering fire, which burns till morning and thaws the face of the gravel to a depth of two feet or more. In the morning the miner enters the shaft, throws back the waste dirt and charred wood, and hoists the pay gravel to the surface. This process is repeated daily, the miner panning after each fire to see if he is still on the pay streak. As the work progresses the drift gradually widens out until a width of about thirty feet is attained, and is then carried forward at a uniform width. On account of the gas produced by the burning wood, ventilation is necessary, and this is secured by sinking a second shaft at a distance of twenty or thirty feet from the first and connecting them as quickly as possible. On account of the frozen condition of the ground, timbering is unnecessary, but the expense thus saved is more than counterbalanced by the consumption of firewood in burning. On many of the claims on Bonanza and Eldorado the wood has been cut off to the top of the range on either side, and within a year or two wood will have to be brought from a distance, which will greatly increase its cost. In the spring the dump taken from the drifts is shoveled into sluice boxes and the gold thus separated from the gravel.

In the shallower claims ground sluicing is resorted to during the summer months. When the pay streak has been located the moss is stripped off, a trench is dug parallel with the creek along the pay streak, and the water from the creek is turned into the head of the trench by means of a wing dam. The action of the water in passing through the trench undermines the banks and washes the muck and much of the gravel into the bed of the creek below, the coarse gold in the gravel thus carried away being left in the bottom of the trench. After the trench has been washed out to a sufficient width a line of sluice boxes is set through the center of the trench, a head of water turned on, and the gravel shoveled in from either side. The sluice boxes are given enough fall to carry the gravel and sand through the boxes into the "tailings" pit below, the gold dropping to the bottom and lodging in the riffles, which consist of longitudinal strips arranged about an inch apart and having cross strips at frequent intervals. Some of the ground, especially on Eldorado, is so shallow that it is found profitable, after removing the moss, to shovel it all into the sluice boxes, thus avoiding the expense and delay of drifting and ground sluicing.

The following details relative to the output of the claims on Bonanza and Eldorado, the number of men employed, wages, etc., present a fairly accurate idea of the value and productiveness of the mines:

BONANZA CREEK.

Discovery and 1 below were well opened up last winter (1896–97), and a pay streak from 30 to 100 feet wide was located. The ground yields

from $2,000 to $2,500 to the box length (*a*), and $40,000 was cleaned up in May as the result of the season's work, eight men being employed.

All the claims from 2 to 10 below run about the same as Discovery and 1 below, there being very rich spots on 3, as high as $3,000 to the box length having been taken out last spring. About ten men were employed for wages on these claims.

From 10 to 20 below, the ground is very rich, producing in places $4,000 to the box length, and the pay streak is 600 feet wide on several of the claims, having been located for a width of 700 feet on 16, with fair pay all the way across.

From 20 to 30 below, the pay streak is very wide, and the ground runs $2,500 to the box length.

In the 30's very little has been done, the output not amounting to over $10,000, probably. As high as $2,000 to the box length has been taken out, and the claims promise large returns.

The 40's run about the same as the 30's, but very little work has been done.

From 50 to 59 the ground yields from $1,500 to $2,000 to the box length. In places the pay streak is 600 feet wide, and the yield is likely to be large. No. 51 produced $50,000 or $60,000 during the summer, ground sluicing, employing twelve men.

In the 60's good pay was taken out last winter. No. 60 was bought for $10,000, and afterwards a half interest was sold for $10,000, the seller reserving the dump and washing out $4,500 therefrom. The ground ran about $2,000 to the box length.

The claims above Discovery run about the same as those below. From 1 to 18 above the ground runs about $2,000 to the box length. No. 5 produced $49,000 during the season, two box lengths yielding $16,000. A half interest in this claim was sold last October for $35,000 cash. Some sixty-five men were employed on 5 at one time during the summer.

No. 21 above is one of the best claims on Bonanza, running as high as $4,000 to the box length. The first rich strike on Bonanza was made on this claim.

From 21 to 26 above very little has been done.

On 26 some big clean-ups were made, over $100,000 having been taken out last summer by ground sluicing. A half interest in this claim was bought last winter for $40,000, including a half interest in 18 above and a quarter interest in 34 Eldorado.

No. 27 sold for $55,000 last spring, the purchaser taking out enough in two months to pay for the claim. The entire output for the season

a The sluice boxes in use in the Klondike district are constructed of inch lumber, and are twelve feet long and twelve inches deep, being twelve inches wide at one end and ten inches wide at the other, so as to fit into one another. In running a string of sluices the gravel is shoveled in from either side to a width of six or seven feet, making a cut about fourteen feet wide. A box length, therefore, is a superficial area twelve by fourteen feet, or 168 square feet.

was $75,000. No. 28 belongs to the same parties as 27 and is equally rich.

No. 29 has turned out from $3,000 to $4,000 to the box length.

No. 36 has been very productive, and 37 produced last winter between $45,000 and $50,000.

No. 38 has turned out very well, as high as $3,000 to the box length, and yielded about $20,000 as the result of the season's work.

From 39 to 44 the ground is good, 41 having produced $20,000 the past season. Very little has been accomplished above 44. In the 50's there has been considerable prospecting, but nothing has been found to justify working at the present rate of wages and cost of supplies.

The bench claims on Bonanza from the mouth of Eldorado, which comes in about a mile above Discovery, to 60 below have shown up well, some of them being very rich. From a bench claim at the mouth of Skookum Gulch, which enters Bonanza about half a mile below Eldorado and nearly parallel with the latter stream, one man washed out $500 a day with a rocker for a short time during the past summer. Along the upper end of 6 below three or four of the bench claims are very rich, one man having rocked out $10,000 last summer. He was offered $10,000 for his claim when he ceased work, but refused the offer. Between Eldorado Creek and Skookum Gulch there is a divide two or three hundred feet high, and pay has been found all the way to the top on both slopes. On the summit washed gravel is found, producing $1 to the pan in coarse gold. The deposit has all the characteristics of an ancient river bed, and has been traced along the ridge for several miles. It is supposed to extend around the head of Eldorado and over to the head of Dominion Creek, where very rich ground was discovered during the past fall. There are many evidences that the wash which produced the present rich deposits of gold in the Klondike district came from this ancient river bed.

All sales so far reported on Bonanza have been made between miners, the money for the payments being borrowed by them from one another. The largest price that has been paid for a single claim on Bonanza is $55,000. No. 7 above was originally purchased for $7,000, and a quarter interest was afterwards sold for the same amount, or at the rate of $28,000 for the claim. A half interest in 6 above was sold for $10,000 early last spring. Many other sales are reported, but these are typical.

ELDORADO CREEK.

The fraction at the mouth of Eldorado is very rich, the dump taken out during the winter having produced $25,000. Five men were employed in making this output.

No. 1 produced $19,000 as the result of the winter's drifting. The work was begun in February, four men being employed. The claim produced $30,000 during the summer, employing fourteen men.

Fourteen men, drifting from February to May on 2 Eldorado, took out a dump which yielded $100,000. Four men working on a lay on the same claim took out $49,000, being employed from January 27 to May 1, and two other men working on a lay produced $32,000, being employed about the same length of time.

Nothing has yet been found on 3, although it is supposed to be rich.

From the fraction of 140 feet between 3 and 4 about $4,000 was taken out, two men being employed on a lay. The claim sold for $14,000 last February.

No prospecting has been done on 4, but it is probably as rich as the claims immediately above and below.

The upper part of 5 and the lower part of 6 produced about $130,000, the result of drifting last winter, sixteen or eighteen men being employed, beginning work late in February. During the summer $50,000 was taken out, twelve men being employed. The pay streak is fully 300 feet wide here, extending clear across the gulch.

On 7 five men were employed for a short time, and they took out $31,000 in four box lengths.

The pay streak is 300 feet wide on 8, and with fifteen men working produced $100,000.

No. 9 is very rich, and produced between $70,000 and $100,000 from two holes, employing nine men. Some very large pans were taken out of this ground, as high as $212 being reported. From three buckets of gravel (fifteen pans) $1,500 was secured.

No. 10, a half interest in which was sold last winter for $15,000, yielded $20,000 as the result of drifting last winter, and $30,000 was taken out during the summer, three men being employed.

A clean-up of $26,000 was made on 11, and from two cuts $60,000 was taken out by five men. The pay streak is wide here.

No. 12 produced about $35,000. This ground is very rich. A great deal of dead work was done on it during the summer in preparation for this season's work.

No. 13 has been very productive, probably $100,000 having been taken out, with six men employed.

Nos. 14 and 15 produced about $120,000, drifting, with two or three men employed.

Six men, drifting, took out $80,000 on 16.

No. 17 has shown good results, having produced nearly $100,000. Work was begun in February, nine men being employed.

From 18 to 23 not much has been accomplished, although all the claims show good prospects.

No. 23 was bought for $25,000 last winter, and the purchaser, working six men, took out enough in two months to pay for the claim.

No. 25 has produced about $30,000, employing five men drifting from February 1 to April 10. Eight box lengths yielded an average of $2,000 to the box length.

Very little work has been done on 26, although the prospects are good.

From two small dumps on 27 about $30,000 was taken out, with three men employed.

The fraction of fifty-five feet between 27 and 28 yielded from a small dump between $6,000 and $8,000, with three men employed.

Nothing has been accomplished on 28, although it prospects well.

Last summer $38,000 was taken out of thirty-eight lineal feet on 29, six men being employed. The owner was offered $120,000 for 120 feet on the upper end, but he refused the offer.

No. 30 is the great claim of Eldorado. It has produced as high as $20,000 to the box length. About $150,000 was taken out of two cuts—twelve box lengths in all, or about $70 to the square foot. The pay streak is forty feet wide. At one time during the spring the owner could go into the workings and take out a pan of dirt from bed rock and get from $800 to $1,000 to the pan. Six men were employed on 30 during the winter, drifting, and about thirty men were employed during the summer.

There is a small fraction between 30 and 31, which has yielded about $30,000. The best pay is found under the banks along here.

The original locator of 31 sold it for $80, and it was afterwards sold for $31,000, one of the first big sales made in the district. Eight men were employed on the claim from April until just a little while before the close of the season, when the water became so low that they had to cease work. They uncovered some very rich ground, and it is thought that 31 will prove to be one of the best claims on the creek.

On 32 big prospects have been found, but not much work has been done.

Up to September 29, 1897, nothing had been found on 33, but on that date a strike was made which yielded $10 to the pan, and the claim promises to be very productive.

No. 34 shows good prospects, but no rich ground has been struck. About nine men were employed on the claim during the summer.

Nothing has been done on 35.

Six men were employed on 36 during the winter, drifting, and from $4,000 to $5,000 to the box length was taken out. Some work was done during the summer, and the claim has yielded between $40,000 and $50,000. The largest nugget as yet found on the Yukon was taken from 36. It weighed about 34¼ ounces and was valued at $583.

No. 37 shows up about the same as 36, and will probably prove as productive.

The claims on Eldorado above 37 have not shown any very promising prospects at the present writing.

The bench claims on Eldorado were not worked to any extent last winter, and it was difficult to prospect them during the summer on account of the inflow of surface water. But they will be thoroughly

prospected this winter, and it is probable that they will prove very rich, as gold has been found in paying quantities wherever a shaft has been sunk to bed rock.

October 1, 1897, eighteen creeks had been located in the Yukon district of Canada. The following table shows the names of the creeks, the number of claims above and below Discovery, the number of bench claims, and the mining districts in which the creeks are located:

NAMES OF CREEKS, WITH NUMBER OF RECORDED CLAIMS, IN THE YUKON DISTRICT OF CANADA, OCTOBER 1, 1897.

Name of creek.	Above Discovery.	Below Discovery.	Bench.	Mining district.
Last Chance	41	7	.....	Klondike.
Bonanza	115	68	.....	Do.
Bear	24	26	.....	Do.
Eldorado	90	.....	40	Do.
Hunker	50	87	1	Do.
Victoria	20	.....	.....	Do.
French	41	.....	.....	Do.
Isaac, or Chief	10	.....	.....	Do.
Skookum	13	.....	80	Do.
All Gold	12	52	.....	Do.
Sulphur	72	68	.....	Indian Creek.
Dominion	50	75	.....	Do.
Eureka	36	35	.....	Do.
Montana	35	8	.....	Montana Creek.
Moose Hide	38	5	.....	Moose Hide.
Bryant	35	11	.....	Bryant Creek.
Deadwood	37	23	.....	Deadwood Gulch.
Henderson	43	34	.....	Henderson Creek.

In explanation of this table it should be stated that the Canadian mining regulations differ somewhat from the mining laws of the United States in the definition of a "mining district" (or "locality"). Under our laws and local regulations a separate mining district may be established on every creek where a discovery is made; whereas under the Canadian mining regulations, "locality" shall mean the territory along a river (tributary of the Yukon) and its affluents. To illustrate: The Birch Creek district, in Alaska, consists of eighteen or twenty separate mining districts, each having its recorder and records, while the Klondike mining district (or locality) embraces the Klondike River and all of its tributaries, and is subject to the authority of a single official, the gold commissioner, who has jurisdiction over the Yukon district of Canada.

Some complaint is heard of the Canadian mining regulations (*a*) in force in the Yukon district, but it must be said in their behalf that in one respect they are considered more favorable than our own laws to the poor man seeking a claim for the purpose of working it. Under the Canadian law a prospector can locate but one claim in a district (or locality), and as he is required when he records to certify under oath that he has found gold in paying quantities, the effect is to prevent the

a A pamphlet giving the regulations governing placer mining in the Yukon district of Canada may be had free upon application to J. A. Smart, Esq., Deputy Minister of the Interior, Ottawa, Ontario, Canada.

location of creeks before they are properly prospected. This is certainly a provision that gives all a fair chance. Under the United States law (*a*) a prospector can locate any number of claims in a district, if he so desires, provided he is not prohibited from doing so by local mining regulations. It may be added, however, in this connection that in order to hold the possessory right to a location not less than one hundred dollars' worth of labor must be performed or improvements made thereon annually until entry shall have been made.

No remarkable discoveries have been made in the Yukon district aside from those on Bonanza and Eldorado, detailed above.

Skookum Gulch, which enters Bonanza from the south half a mile below Eldorado, is staked to 13 above its mouth, where the original discovery was made, and contains thirty bench claims, some of which are very rich. The creek claim at the mouth of Skookum Gulch was staked last March and was sold shortly afterwards for $35,000. The purchasers cleaned up $37,000 during the summer and then sold a half interest for $35,000. Nothing noteworthy has been accomplished farther up on Skookum, but the ground prospects well and will undoubtedly prove rich, as it drains the western slope of the divide, containing the ancient river bed previously referred to.

French Gulch, a tributary of Eldorado, has not been developed to any extent, although $5 to the pan has been secured from a fractional claim at its mouth.

Bear Creek, a tributary of the Klondike, contains fifty creek claims, some of which prospect well. One claim which was worked last winter yielded from $1,500 to $2,000 to the box length.

Hunker Creek, which flows into the Klondike from the south a few miles above the mouth of Bonanza, has 137 creek claims and one bench claim, and is reported to contain much good property.

No promising prospects have been found on any of the other tributaries of the Klondike. It is a remarkable fact that all the gold-bearing creeks thus far discovered on the Klondike come into that stream from the south, and the same statement is true of Bonanza and Eldorado.

Several creeks have been located outside of the Klondike district, as indicated in the foregoing table, but no noteworthy developments have been made. Dominion Creek, a tributary of Indian River, has shown some very fine prospects, and as it heads just across the divide from the head waters of Eldorado, it is thought that it may prove productive.

Late reports from Henderson Creek, which enters the Yukon from the east just below Stewart River, indicate that good ground has been found there, 35 cents to the pan having been obtained on the benches. It was impossible during the summer to reach bed rock near

a A pamphlet giving the United States mining laws, and regulations thereunder, may be had free upon application to the Commissioner of the General Land Office, Washington, D. C.

the creek on account of the water, but it is probable that good pay will be found there during the winter.

In the short time available it was impossible to interview all the claim owners on Bonanza and Eldorado. The amounts given above as the output of the various claims designated aggregate nearly $2,000,000, and as most of the claims for which the output is not given (some 125 in number) produced from $1,000 to $10,000 each, it is safe to say, as before stated, that the mines of the Klondike district yielded during the season of 1896-97 nearly $3,000,000—a most extraordinary figure, when it is considered that the period of active operations on most of the claims was less than eight months and that probably less than 600 men were engaged in productive mining operations. The claims on Bonanza were worked almost entirely by the claim owners themselves and by miners who took lays on the claims, and it is probable that not over 100 men were working for wages on the creek at any one time. The claims on Eldorado were worked principally by the claim owners personally and by miners employed by the day, the owners being averse, on account of the extraordinary richness of the ground, to letting it out on lays. The best obtainable data place the number of men working for wages on Eldorado at any one time at 300, and it is probable that one-half of this number would represent the average for the eight-month period of active operations. There is no doubt that the output would have been doubled if it had been possible to secure miners, but, as intimated elsewhere, a man who was supplied with provisions could not be induced to work for wages, and those who did accept employment worked only long enough to earn a "grub stake," when they ceased work and went into the hills to prospect.

While the output appears large, it should be borne in mind that the expenses of operation are enormous. Sluice-box lumber costs $150 a thousand feet in Dawson, and the rate for packing to 36 Eldorado, a distance of sixteen miles, is $80 a thousand, and proportionately more for greater distances. In the summer it costs 35 cents a pound to pack provisions from Dawson to 36 Eldorado, the winter rate being 8 cents a pound.

The summer trail from Dawson to the mines is a mere footpath, which winds its way over a steep mountain for a distance of two and a half miles, where it strikes the Klondike, which is crossed by means of a ferry and then traverses the valley of Bonanza Creek for two or three miles farther. It then alternately ascends and descends benches from one to three hundred feet high and meanders through the valley. Where the trail keeps to the bottom lands one sinks to the knee in the muck at nearly every step, while it is necessary constantly to be on the alert to avoid a bad stumble over the roots, which protrude from the ground and cross the pathway in every direction. Rubber boots are indispensable but their weight adds to the discomfort of the journey. When the trail leaves the bogs and ascends the hillside, some relief is

experienced so far as the muck is concerned, but the roots are still there, supplemented by smooth bowlders, on which one is apt to slip and fall, while the exertion required to climb the steep incline tries the stamina of the strongest man. The unhappy traveler's misery is accentuated to the verge of distraction by myriads of mosquitoes, probably the most energetic and vindictive of their kind thus far discovered on this continent. After a journey over the Bonanza trail the mind reverts to the struggle over Chilkoot Pass as a mere pleasure jaunt and to the soul-harrowing experiences on the Skagway trail as a summer outing. In passing down the trail men are met at frequent intervals carrying from 100 to 150 pounds on their backs and one falls to wondering why, instead of packing for 35 cents a pound, they do not strike for $1. Horses and dogs are also used for packing, a good horse carrying 200 pounds and a dog from 35 to 50 pounds. In the winter, after the creeks and the Klondike freeze over, provisions are freighted to the mines by means of sleds, drawn by horses, dogs, or men, and the rate is about one-fourth that for summer packing. These rates, added to the excessive prices paid for supplies in Dawson, make the cost of living and the expense of operating the mines enormous.

If a visitor to the gulches prefers to ride, he can secure a saddle-horse in Dawson for $60 a day.

During the past summer thirty or forty well-constructed log buildings were erected on the north side of Bonanza, opposite the mouth of Eldorado, the place being known as The Forks. The location is on bench land, with good drainage and a charming outlook. If provisions could have been obtained, there is no doubt it would have become a prosperous and growing town during the present season. The Forks must, in the nature of things, become an important point for the distribution of supplies, as it is in the heart of the gold-bearing zone of the Klondike district.

The question as to whether or not the mines of the Klondike district offer a safe and profitable field for the investment of capital is one to which many capitalists will have a satisfactory answer, through the medium of their experts on the ground, long before this report reaches the public, and therefore the facts here given will probably be of no value to them; but to men of small means seeking business opportunities, and to workingmen allured by the promise of large wages, it is hoped that the information contained in this and the succeeding section may furnish a basis for correct conclusions as to whether it is wise for them to venture into this country under present conditions.

With special reference to employment for wages in the mines, it should be stated, first of all, that the term "$15 a day" is misleading if unaccompanied by the explanation that payment for labor in the gulches is based on the unit of $1.50 per hour, and that at best employment is uncertain in the extreme, both on account of the climatic conditions and the difficulty of procuring supplies. During the summer months full time can generally be made, but the working season seldom exceeds

seventy days. There is then a closed season of two or three months before drifting begins, the usual time for commencing winter work being about December 1. From that date to February 1 there is an average of but six hours of daylight, while the temperature frequently drops to 60 or 70 degrees below zero, rendering it difficult, if not impossible, to get in full time, the average time made during those months not exceeding six hours a day. Diligent inquiry among scores of miners who worked for wages during the past season failed to discover one who had made full time for 150 days, the average probably falling below rather than above 100 days. The cost of a year's outfit at the prices charged in the stores would be about $600, but if the stores are unable to supply a full outfit, as was the case last summer and has been the case nearly every year since the first settlement of the country, the miner is obliged to purchase from speculators and small traders sufficient supplies to make up the deficiency, at prices which bring the cost of his year's outfit to a figure more nearly represented by $1,000 than the first sum named. This enormous cost of living leaves the miner with little or no means after the purchase of his outfit to devote to other purposes. To support a family under such conditions is out of the question, and the only opportunity a miner has to better his condition is to work just long enough to pay for a "grub stake" and then go into the hills and prospect. If he makes a successful strike, he is prepared to pay the exorbitant prices charged for supplies, and can work his mine; if he fails, he may again go to work for wages or go out of the country and bring in an outfit over the trail, an alternative frequently chosen.

Even under the hard conditions prevailing during the past fall concerted action was taken to reduce wages from $1.50 to $1 per hour. On September 23 certain mine owners met in Dawson and adopted a resolution reducing wages to $1 per hour from October 1. The wage-workers met at The Forks on September 26 and adopted a counter resolution, declaring that wages would be kept at $1.50 per hour. If it had not been for the food panic, which is fully described under the head of Dawson, it is probable that the question would have come to an issue October 1, and with a large number of unemployed men in the country there is no doubt as to what the result would have been; but on account of the scarcity of provisions, supplemented by the fact that the only workingmen in the country even partially supplied were those already employed, the mine owners were forced, for the time being, to recede from their position. Many of the owners claim that it is impossible to operate their mines at a profit with wages at the present figure, and they are either working them in a very small way this winter or letting them lie idle, waiting for the reduction of wages which must inevitably come with an increase in the food supply.

It has been very difficult to secure any trustworthy estimates as to the probable output of the mines during the present season (1897–98). Many enthusiastic mine owners predict that it will reach $15,000,000,

but the more conservative place it at from $8,000,000 to $10,000,000. The latest information received (December 15, 1897) indicates that there are about 1,500 men engaged in mining on Bonanza and Eldorado, and as many more on other creeks in the Klondike district, a number that would probably have been doubled had it not been for the shortage of supplies. Up to December 15 no new developments had occurred in the district to change the opinion of those best informed that no creeks will be found to equal Bonanza and Eldorado in richness. In speaking of this subject an old practical miner says:

"Whatever may have been the cause that concentrated the gold in the two great creeks, it would seem that they have become rich at the expense of a vast tract of country which must, of necessity, be poor. Nor is there anything unnatural or unlikely in this. That it is so with the Klondike gold field has now become quite evident, and all the rich strikes that will ever be heard of from this part of the country have already been reported."

DAWSON.

About the 1st of September, 1896, Joseph Ladue, of the firm of Harper & Ladue, the owners of a trading post and sawmill at Sixty Mile, came down from that place and located the town site of the present town of Dawson, selecting a level plot of ground on the east bank of the Yukon just below the mouth of the Klondike, and fifty-five miles east of the boundary line between Alaska and Northwest Territory. The sawmill was brought down from Sixty Mile and set up on the river front about a mile below the Klondike. Ladue erected the first house in Dawson, and had a small stock of goods transferred from the trading post at Sixty Mile. His supply of provisions, however, was inadequate to meet the demand, and many of the prospectors were obliged to go to Forty Mile and Circle City to procure outfits for the winter. The sawmill was put into operation at once, and has turned out about 2,000,000 feet of product, supplying the mines with sluice-box lumber and the town and vicinity with building material. But little building was done during the winter, the cold weather making such work impossible, but men were engaged in getting out logs for the construction of houses in the spring. On the 1st of January, 1897, there were only three or four houses in the town and but few men passed the winter there. As stated elsewhere, some 1,500 came into the district during the winter, but with few exceptions they passed up the Klondike and remained in the gulches till spring. By midwinter it was generally recognized that an extraordinary strike had been made, and as it was evident that Dawson would become the distributing point for the mines, there was an active demand for town lots. By the 1st of June eight or nine buildings had been erected on the river front, and there was a population of five or six hundred in the town, living principally in tents. There were three gambling houses and saloons, all

doing a big business, one taking in an average of $1,000 a day over the bar, and many games of faro, roulette, etc., were running day and night. Numerous big clean-ups had been made in the gulches, and the town was flooded with gold dust, it being no uncommon thing to see a miner enter a saloon with a sack containing $3,000 or $4,000 in dust and leave it with the barkeeper, while he proceeded to "see the town," the sight usually proving so expensive that he had but a small balance to his credit at the bar when final settlement was made.

On June 2, 1897, the steamer *Bella*, belonging to the Alaska Commercial Company, reached Dawson, being the first boat to get up the river. She had wintered at Fort Yukon, and brought from that point and Circle City about 450 tons of freight, with 225 passengers from the latter place. The representatives of the Alaska Commercial Company immediately opened up for business in the small cabin formerly occupied by Ladue, taking in about $6,000 as the result of the first day's sales, and at once made preparations to erect a store building and warehouses. Meantime the steamer *Bella* returned to Forty Mile and brought up 120 passengers from that place.

On June 8 the North American Transportation and Trading Company's steamer *Weare*, which had wintered at Circle City, reached Dawson, bringing up 300 tons of freight and twenty-five passengers. Capt. John J. Healy, the manager of the company, arrived on the *Weare* from Fort Cudahy, and at once began the construction of a store and warehouses for the accommodation of the business of his company. In the latter part of July the sawmill at Fort Cudahy was removed to Dawson, and it has since been in operation, having probably turned out 1,000,000 feet of lumber at the present writing.

Building operations were prosecuted vigorously during the summer, and by October 1, 1897, there were between four and five hundred houses in the town, many of them very large and expensive. The Alaska Commercial Company had completed their buildings, which are the largest in Dawson. Their store building is 40 by 80 feet and two stories in height, constructed entirely of logs, and they have one warehouse 30 by 190 feet, constructed of corrugated iron. Besides these large buildings they have three other warehouses, varying in length from 50 to 100 feet, all being 30 feet in width, and a fine two-story log house used by the employees of the company for living quarters. The cost of the buildings, according to a statement furnished by the company, was nearly $250,000. At the above date the North American Transportation and Trading Company had also completed their buildings, consisting of a fine commodious store building, constructed of logs; three warehouses, constructed of corrugated iron, and a comfortable dwelling house. The cost of these buildings is stated by the company to have been about $150,000.

The town site of Dawson extends from the Klondike along the Yukon about a mile and a half to a high bluff, which comes down to the river

and extends back about half a mile from the river to a steep range of mountains, being of nearly uniform width. The companies' stores are located on the front street, facing the river, about a mile below the Klondike. Along the river front, toward the Klondike, there is a row of buildings, thirty-five or forty in number, which are occupied by saloons and gambling houses (now numbering fifteen), restaurants, etc. Some of these buildings are quite large, the principal one, the opera house, being 40 by 80 feet and two stories in height. The lot on which it stands was purchased for $12,000, and the building itself cost $20,000. Many lots on the front street have sold at prices ranging from $3,000 to $12,500, and residence lots sell for from $300 to $1,000, according to location.

In the upper part of town, facing the river, are situated the barracks of the mounted police. These consist of five or six well-constructed log buildings, forming a hollow square, the principal one, the quarters of the captain in command of the force, being two stories in height.

At the lower end of town, on a bench overlooking the river and the town, is situated the Sisters' Hospital, occupying three fine buildings. This is the most eligible part of Dawson at present for residences, and quite a number of comfortable cabins have been erected there. The greater number of the private residences, however, are located on the flat between the front street and the mountains. This portion of the town is a muck bed, and during the summer months is covered with stagnant water to a depth of a foot in many places. No attempt has been made to drain it, and as a consequence there were many cases of typho-malarial fever during the past summer, there being thirteen patients in the hospital October 1, 1897, suffering from this disease. Fortunately the fever is not of a virulent type, and yields readily to treatment, but few deaths being reported. About seventy-five deaths occurred in the district during the past year, many the result of bad living. Unless some concerted action is taken looking to the improvement of the insanitary condition of the town, there must inevitably be a great deal of sickness next summer, when the situation will be aggravated by the accumulation of offal during the winter, and the overflowing cesspools.

Many newcomers during the past season suffered from a troublesome dysentery, evidently brought on by drinking water from the Yukon, which is strongly impregnated with minerals, especially below the mouth of White River, which takes its name from a white substance in its waters, supposed to be volcanic ash. The water when drunk has much the same effect as the alkali waters of the streams in the western part of the United States. There is also much complaint among the old-timers of kidney and bladder affections, which they universally attribute to the water.

Across the Klondike from Dawson, occupying a triangular tract of ground bounded by the Yukon, the Klondike, and the mountains, is a collection of twenty-five or thirty cabins locally known as "Louse Town," so named by some observant and facetious individual who was

probably cognizant of a predominant peculiarity of the Indians living there. This is the most healthy part of the town, being high and dry and having good drainage, and when relieved of the incubus of its present local appellation, which it is presumed will disappear with the passing of the red man, will be the most desirable portion of the town for residence. Just opposite Dawson, on the west bank of the Yukon, is an eligible sight for suburban residences, and already a number of comfortable cabins have been erected there.

Nearly all the houses in Dawson are built of logs. A typical cabin is 14 by 16 feet, inside measurement, requiring for its construction from twenty-eight to forty logs, the number depending on their size. The walls are carried to a height of eight feet, being surmounted by a gable roof with a three-foot pitch, supported by three logs laid parallel with one another, one forming the ridgepole. Across these supports, arranged as closely together as possible, are placed small poles or slabs, which extend a foot or so beyond the walls, forming the eaves. Over these a layer of moss is spread and the whole topped out with earth to the depth of six inches. The walls are chinked with moss and a single-sash window is placed in the south wall to admit the sunlight. The floors of the cabins built last winter generally consist of hewn logs or whip-sawed lumber, but flooring purchased from the sawmills is now commonly used. Such a cabin as that described, when heated by a Yukon stove, is quite comfortable, even in the coldest weather. The expense of constructing cabins is considerable. All the logs used in Dawson are rafted from points up the river, and as the demand for logs at the sawmills and for building purposes has exhausted the supply in the immediate vicinity of the town, the loggers are obliged to go from 25 to 150 miles up the river to find logs of sufficient size, the best logs for lumber being secured in the neighborhood of Fort Selkirk, about 150 miles above Dawson, though good house logs can be found at much nearer points. The price of logs for lumber, in the water on the river front, is $50 a thousand feet, board measurement. Logs for building purposes cost $5 apiece in the water, and the expense of transporting them to the residence portion of the town is as much more, a man with two horses engaged in this work receiving $5 per log or $50 a day for such services. The moss for a cabin costs from $25 to $30.

The prices of lumber at the mills are as follows: Common rough lumber, $140 per 1,000 feet; sluice-box lumber, $150; six-inch flooring, $190; four-inch beaded ceiling lumber, $200 (double-surfaced, $240). The wages paid by the sawmills are as follows: Foreman, $12 a day; engineer, $12; sawyer, $12, and a common laborer, $10. The mills run night and day from early in May to October 1, working two shifts of ten hours each. Each of the mills employed about ten men during the past season. The price of logs in 1896 was $25 per 1,000 feet (board measurement); but during the season of 1897 the price advanced to $50, on account of the scarcity of logs in the immediate vicinity. A good log-

ger can make $20 a day during the season at this price, but the season is short and the work exceedingly hard, the men being compelled to remain in the water for hours at a time while constructing the rafts.

Carpenters receive $15 a day, and common laborers of all kinds receive $10 a day, ten hours constituting a day's work. The wages of laborers during June and July were $15, but they were reduced August 1, 1897, to the present figure.

These high prices of material and labor make the expense of building very great, an ordinary one-room cabin, such as that above described, costing from $700 to $1,000, according to finish. If a rough-board partition is desired, $150 has to be added to these figures to secure it. The cost of a two-story business building 25 by 80 feet runs high up into the thousands, many of the buildings of this class costing from $12,000 to $20,000 each, according to finish. Some of the more pretentious structures are constructed of sawed logs, cut to a uniform thickness of six inches, with the edges squared, forming a weather proof six-inch wall. These buildings present a very neat appearance and possess all the advantages of the ordinary log house as regards warmth and durability.

There is one tin shop in Dawson. The force of five or six men was employed during the fall almost exclusively in the manufacture of stoves. The ordinary Klondike (or Yukon) stove costs $40. This is made of No. 20 sheet iron, being 30 inches long, 14 inches wide, and 10 inches deep, with two holes, and having an oven 9 by 14 inches, the remainder of the space being taken up by the fire box. A larger size, containing five holes, costs $50. These stoves are good bakers, and heat a small cabin comfortably with very little fuel. Stovepipe (5 inch) costs $1 a joint. A copper wash boiler costs $10; tin wash boiler, $6; teakettle with copper bottom, $5, and other utensils in like proportion. Tinsmiths receive $15 per day of ten hours, the charge for work done outside the shop being $20 a day per man.

There are two watchmakers in Dawson, whose scale of prices for repairing is as follows: Cleaning, $5; main spring, $4; open-face crystal, $1.50; hunting-case crystal, $1; balance staff, $6 to $8.50; roller jewel, $3; hole and cap jewel, $4; hands, 75 cents; lifting spring, $5.

Two blacksmith shops, each employing from two to four men, are kept busy shoeing horses, making picks, shoeing sleds, etc. The charge for shoeing a horse all around is $20; making pick, $8; shoeing dog sled (seven feet long), $10. Blacksmiths receive $15 per day of ten hours.

One of the restaurants still open October 1, 1897, paid the following wages, board and lodging included: Two cooks, $10 a day each; waiter, $30 a week; dishwasher, $25 a week; woman helper, $25 a week.

The Opera House saloon, the principal establishment of the kind, pays weighers $20 a day. Barkeepers receive from $15 to $20 a day, twelve-hour shifts, according to style and the seductiveness of their decoctions. The gambling department of the same institution pays its

dealers from $15 to $20 a day, twelve-hour shifts. These are the highest wages paid for this class of service. Other saloons pay from $10 to $15 a day, the prevailing rate being $12.50. The following prices are charged in the saloons: Whisky, beer, seltzer, beef tea, etc., 50 cents; cigars, 50 cents; sherry and egg, $1.50; milk (canned) punch, $1.50; champagne, two ounces of gold ($34) per quart bottle—three ounces ($51) when scarce. The Opera House runs a dance hall, in which six or eight women are employed, their tour of duty extending from 6 p. m. to the close of the festivities, generally 4 or 5 o'clock in the morning. They receive a salary of $40 a week and a commission of 25 per cent on the drinks and cigars consumed by their partners. The more attractive and industrious make as high as $100 a week. The dance hall is nightly crowded by a motley throng, many of the leading citizens frequenting the place and leading in the dance. An habitué of the institution, in determining the length of time he will be able to participate in the revelries, bases his calculation on the number of "allemande-lefts" he has remaining in his sack.

The salaries paid by the commercial companies are as follows, including board and lodging: Bookkeepers, $125 a month, and clerks, $100. Laborers in the warehouses receive $125 per month, without board.

Three or four laundries are in operation, charging from $4 to $6 per dozen pieces, the price depending on the amount of work on hand and the inclination of the laundress to accept more orders.

The one barber shop charges the following prices: Shaving, 50 cents; hair cutting, $1; shampoo, $1; bath (six gallons of lukewarm water), $1.50. One journeyman barber was receiving $75 a week up to October 1, 1897, tips amounting to $25 or $30 more; but he was forced to go down the river on account of lack of supplies. Two other barbers received 60 per cent of their receipts.

There are five or six physicians in the town, their fees being an ounce of gold ($17) per visit. For visiting a patient in the gulches the charge is from $100 to $500, according to distance.

During the past year some thirty horses were engaged in packing between Dawson and the mines. One of the leading freighters furnished the following figures: Summer rate for packing, 20 to 40 cents a pound, according to distance; 30 cents to The Forks (13 miles from Dawson). The winter rate is 8 cents to The Forks. The packer receives $100 a week and boards himself. Feed costs from $3 to $4 a day to the animal, hay ranging from $250 to $500 per ton, and a good horse packs 200 pounds, making ten round trips a month, on an average. A horse costs from $300 to $600.

Cordwood costs $25 per cord laid down at the door ready to burn—$15 in the water, $5 for hauling to the place of consumption, and $5 for sawing into stove lengths.

The civil government is in the hands of the Northwest mounted police. The force consists of a fine body of twenty-five or thirty men. The inspector in command has been on the Yukon for three years, having

been stationed at Forty Mile previous to the discovery of gold on the Klondike. He has full magisterial powers, and the fact that he is universally esteemed by all classes in the community indicates that he performs the difficult duties of his position with wisdom and discretion.

The business of provisioning the community is almost exclusively controlled by the two great commercial companies whose establishments have been described, as they possess the only means of bringing merchandise into the country in large quantities. During the past summer considerable quantities of goods of various kinds were brought in over the trails and down the Yukon in small boats, but these consisted principally of light articles known to be scarce here and therefore commanding abnormal prices; otherwise the small traders could not have competed with the commercial companies. It is impossible for the general public to secure the transportation of freight by way of St. Michaels, as the companies require the full tonnage of their boats for the accommodation of their own business.

It is claimed to be the custom of both companies to sell goods for a fixed price, regardless of the quantity on hand, and it must be admitted that their prices, especially for the staples—those things which are absolutely necessary for fairly comfortable subsistence—are reasonable, when the great difficulties and cost of transportation are considered. (*a*) Ignorance of this policy on the part of those coming in over the trails last summer was a very important factor in bringing about the present scarcity of provisions. Men with large outfits at Dyea and Skagway, on learning that flour was quoted at $12 a hundred in Dawson, would come to the erroneous conclusion that it must be plentiful, and would refuse to pay the $40 to $60 a hundred which was being charged for packing on the Dyea and Skagway trails. As a consequence hundreds of men came into the country without flour and other staples who would otherwise have come in well supplied.

The companies endeavor to make an equitable distribution of their goods among their customers. Each company has an order clerk, supplied with blanks, whose business it is to take the orders of customers, who usually place their orders early in the season, a deposit of $200 being required on a year's outfit. All orders received prior to a certain date, determinable by the stock on hand and the condition of the river, are guaranteed; but all received subsequent to that date are taken conditionally. For instance, during the past season the Alaska Commercial Company guaranteed all orders placed at their store in Dawson prior to September 1, but informed customers placing orders later than that date that it might not be possible to fill them.

---

a This was written about the 1st of November, 1897, being based upon the statements of both companies. Two months' further observation on the ground demands certain modifications, which will be found in the sections on the Business Outlook, Transportation, and Fort Yukon. The paragraph is allowed to stand as originally written, as it serves most admirably as an illustration of the elusiveness of a Yukon fact.

The following typical order for a year's outfit was furnished by the Alaska Commercial Company:

ONE YEAR'S OUTFIT FOR ONE MINER.

Articles.	Price in Dawson.	Price in Circle City.
500 pounds flour	$60.00	$50.00
80 pounds beans	10.00	9.60
25 pounds peas	6.25	6.25
25 pounds rolled oats	6.25	6.25
15 pounds corn meal	3.75	3.00
1 case condensed milk, 4 dozen 1-pound cans	24.00	20.00
1 case cabbage, 2 dozen 2-pound cans	12.00	10.00
1 case roast beef, 1 dozen 2-pound cans	9.00	9.00
1 case corned beef, 1 dozen 2-pound cans	9.00	6.00
1 case sausage meat, 2 dozen 2-pound cans	18.00	18.00
1 case turkey, 2 dozen 2-pound cans	12.00	12.00
1 case tomatoes, 2 dozen 2½-pound cans	10.00	10.00
1 case string beans, 2 dozen 2-pound cans	12.00	12.00
75 pounds bacon	30.00	30.00
50 pounds ham	22.50	20.00
25 pounds dried apples	6.25	6.25
25 pounds dried prunes	6.25	6.25
25 pounds dried peaches	7.50	7.50
25 pounds dried apricots	8.75	8.75
25 pounds raisins or grapes	6.25	6.25
100 pounds granulated sugar	30.00	25.00
1 keg pickles, 5 gallons	5.00	5.00
1 keg sauerkraut, 5 gallons	5.00	5.00
5 gallons maple sirup	15.00	15.00
25 pounds evaporated potatoes	12.50	10.00
15 pounds cheese	7.50	7.50
20 pounds Arbuckle's coffee	10.00	10.00
5 pounds black tea	6.25	5.00
5 pounds chocolate	3.75	3.75
2 bottles lime juice	4.00	5.00
6 bottles Worcestershire sauce	4.50	4.50
30 pounds lard	9.00	9.00
1 box macaroni, 12 pounds	2.00	2.00
12 pounds mince-meat	12.00	12.00
2 pairs rubber boots	18.00	24.00
1 tin assorted cakes, 36 pounds	10.00	15.00
4 boxes candles, 120 to the box	24.00	28.00
1 case baking powder, 2 dozen one-half pound cans	12.00	12.00
6 bars washing soap	1.00	1.00
5 bars toilet soap	1.00	1.00
15 pounds salt	1.50	1.50
1 case coal oil, 10 gallons	12.00	12.00
2 lamp chimneys	.50	.50
100 feet of rope, three-fourths or seven-eighths (45 pounds)	18.00	13.50
1 five-foot buil saw	6.00	6.00
2 bull-saw files	1.50	1.50
1 pair arctic overshoes	4.50	4.50
2 pairs felt boots	5.00	5.00
4 pairs woolen socks	4.00	4.00
2 pairs moccasins	5.00	5.00
2 pairs water boots	5.00	6.00
6 pairs skin mittens	15.00	15.00
Total	550.25	531.35

This order was placed June 26, 1897, and was accompanied by a deposit of $300. For two or three items the quantities are somewhat large, the order calling for 100 pounds of flour in excess of the usual allowance; but as some luxuries have been omitted, it constitutes an average outfit so far as cost is concerned. When an order is guaranteed, the goods are assembled in one pile, marked "sold," and held in the warehouse subject to the order of the purchaser. If he is a miner, he usually prefers to let his outfit remain in the warehouse until cold weather, in order to take advantage of the lower rates for freighting to the gulches prevailing after the snow falls. On account of the wholesale robbery

of caches (*a*) during the past summer and fall, even those customers residing in town allowed their supplies to remain in the custody of the companies as long as possible.

The prices quoted above will not seem exorbitant to old miners, who recall that in Tucson and Tombstone in 1877 they paid $25 a hundred for flour at the stores, 50 cents a pound for bacon, 40 cents a pound for sugar, and proportionate prices for other commodities; nor to the old-timer who paid $1 a pound for flour, bacon, etc., at the stores in Helena during the flush days of Last Chance. It is no doubt true that many articles command higher prices here than have ever been paid anywhere else on the continent; but it should be borne in mind that this condition has been brought about through the "cornering" of those articles by unscrupulous speculators, and that both companies have made every effort to prevent the present state of affairs, recognizing that it would injure the country and retard its development.

While the companies' prices for staples are comparatively reasonable, as stated, the same can not be said in regard to the prices charged for many other articles. As a general rule, clothing of all kinds sells for prices 200 per cent in advance of the prices charged for the same grade of goods in the States of the country; shoes and all kinds of footwear, 100 to 150 per cent advance; dry goods, 200 to 500 per cent, calico selling for 25 cents per yard, or 5 yards for $1; patent medicines and drugs, 300 to 1,000 per cent—a popular blood purifier, which usually sells for 75 cents a bottle at retail, costing $3 here, and drugs generally selling for $1 per ounce, without regard to original cost. A 12-pound Mackinaw blanket sells for $25, the prices of all grades of blankets being from 100 to 150 per cent higher than in the United States. A wolf robe, retailing for $40 in Seattle, costs from $150 to $250 here, according to the financial condition of the purchaser. A repeating rifle, which retails for $20 outside, sells here for $50. A set of ordinary ironstone china dinner plates, costing 75 cents at retail in the United States, brings $6 here. As 25 cents is the smallest change made, there is an immense profit in small articles, such as lead pencils, needles, thread, etc.

Refined alcohol of a grade that sells at retail in the East for $3.75 per gallon is sold by the companies for $40 per gallon. They charge $17 per gallon for a brand of blended whisky that can be bought at retail outside for $2.50, and $120 a case (12 quarts) for champagne. Cigars of a quality usually sold for $5 per hundred are sold here for $14, and retail over the bars at 50 cents apiece. In the matter of smoking and chewing tobaccos the charges are more reasonable, the dealers being satisfied with an advance over outside prices of from 50 to 100 per cent.

There is an enormous profit in cheap jewelry. An imitation gold

a Household provisions are generally stored in an outhouse, called a "cache," usually constructed of a boat placed on posts six or eight feet high, beyond the reach of dogs.

watch retailing for $5 in the United States sells here for $10, and a gold-washed watch chain which could be duplicated outside for $1.50 meets with an occasional sale for $8. There is less demand for this class of jewelry, however, than formerly, the people generally demanding the best grades.

There is a fair demand among the miners for a good grade of watches and chains, the prevailing prices being from 100 to 150 per cent higher than in the United States.

There is an active sale for diamonds of from 1 to 4 carats. In October, 1897, a small diamond which cost $35 at retail in San Francisco sold for $150 in Dawson; but this price was exceptional.

In the spring of 1897, before the boats got up, there was a great scarcity of many kinds of provisions, and abnormal prices prevailed. Flour sold for $125 a hundred; bacon from $1.50 to $2 a pound; moose meat, 75 cents a pound, and many other articles in like proportion.

One restaurant was running June 1. After the boats got up and provisions could be obtained other restaurants were started, there being four by June 15, and eight by July 10. The price of a meal was $1.50, the regulation meal consisting of bread, butter, and coffee, bacon and beans, and canned corn. Later, when beef cattle got in, a small steak was added to the menu. A tenderloin beefsteak, ordered by the card, cost $2.50, the charge for two eggs on the side being $1.50. During the last week in September only two restaurants were running (all the others having been forced to close through lack of supplies), the bill of fare being as follows: Breakfast, bread, butter, and coffee, beefsteak, canned corn, and hot cakes; dinner, the same, with rice pudding substituted for hot cakes; supper, the same, minus hot cakes and pudding. Price, $1.50 per meal. By October 1 one of these restaurants closed on account of lack of provisions, the other continuing to do business in a precarious way for a few days, and charging from $2 to $3.50 per meal, the character of the service deteriorating in about the same ratio as the price increased, until at the final collapse $3.50 was being charged for bread, butter, and coffee, and a very small and exceedingly tough steak. After the close of the last restaurant, about October 10, an enterprising individual opened up a soup house, displaying the following sign: "Bean soup from 10 a. m. to 3 p. m., $2.50." He served a fair article of soup, with a cup of tea and a slice of bread, doing a rushing business for a few days, when he was forced to close on account of the scarcity of beans.

The only medium of exchange in general circulation is gold dust, which passes current at a valuation of $17 per ounce. Considerable coin and paper money have been brought into the country, but when any of it is paid to a business man it immediately disappears from circulation, presumably being used for the purpose of making remittances to the outside world instead of the more bulky and less convenient gold dust. Every place of business has a pair of gold scales, pre-

sided over by a weigher whose duty it is to weigh the gold dust received in the course of business. The customer pours into a little scoop enough dust to cover the amount of his purchase, and from this the weigher weighs out the exact amount, returning the balance to the customer's sack. This method of exchange has many disadvantages, the principal objection in ordinary business transactions being the loss of time in weighing, etc. Those who patronize saloons and gambling houses complain of unfair weighing by some of the less scrupulous proprietors. A weigher in a saloon who can not extract a 20 per cent advantage from the opportunities offered is not considered an adept in his line. Aside from these objections there is some loss from the careless handling of gold sacks, especially when men are under the influence of liquor, a not infrequent spectacle here.. After a man has taken two or three drinks of Dawson whisky he is apt to forget to tie his gold sack, and in taking it out of his pocket to pay for the next drink is liable to sow some of his dust on the floor, where a small portion of it is naturally lost to him, but not to the janitor, who pans out the floor sweepings in the morning, often cleaning up from one to two ounces. This unsatisfactory condition in regard to the circulating medium, which exists throughout the Yukon basin, must continue until the two governments make some provision for a currency, through the establishment of assay offices or otherwise.

During August, 1897, there were about 3,000 people in the town, a large proportion of whom had come over the trails and down the Yukon, for, although the news of the great strike did not reach the outside world until the middle of July, it was known in Juneau and at other points in southeastern Alaska in February, and in April and May the Dyea trail was swarming with men from Juneau and vicinity on their way to the Klondike. A register is kept at Fort Selkirk of those passing down the river, and on October 3 this register and the count kept there showed that 3,500 men had passed that point during the season, bound for the new diggings. This number, added to those already in the country and the two or three hundred who had reached Dawson from St. Michaels, brought the population of the Klondike district up to fully 5,000, as very few people had left the country during the summer. Most of those who came down the river during the early part of the season were miners or others accustomed to the hardships of frontier life, but those arriving later were largely professional men, clerks, etc., who had never had any experience outside of the cities where they had followed their vocations and who were poorly equipped by nature and training for the struggle which confronted them under the hard conditions prevailing here. Among the number that came in during August, September, and October were many women and children, and these found their surroundings peculiarly trying, as it was impossible to secure proper shelter before the setting in of cold weather. On October 1 there were about 2,000 people in Dawson, probably 1,000 of whom were

living in tents, and in the nature of things many of them will be obliged to so live during the winter, as logs for cabins can not be secured after the river closes.

By the middle of September it became apparent that a serious scarcity of provisions for the winter was inevitable, on account of the ill success of the commercial companies in getting their boats up the river. This condition was daily becoming worse, owing to the fact that most of the people coming down the river were poorly supplied with food, while a great many were landing in Dawson with barely enough to get them there. The steamers *Healy* and *Weare*, belonging to the North American Transportation and Trading Company, on account of the low water had made but two trips each to Dawson, while the *Hamilton*, the new boat upon which the company had principally depended, had not got above Fort Yukon. The *Healy* had landed in Dawson about 305 tons of freight, while the *Weare* had brought up about 500 tons. The boats of the Alaska Commercial Company had done somewhat better, the *Bella* having made one trip from Fort Yukon and three from St. Michaels, bringing up about 1,275 tons of freight; the *Alice* had made three trips, landing 450 tons, and the *Margaret* one trip, with 200 tons. In all only about 2,730 tons of freight had been laid down in Dawson as the result of the season's navigation, and as probably one-half of this consisted of furniture, clothing, hardware, liquors, etc., the outlook for the winter was gloomy indeed. Many clung to the hope that more boats would get up, but on September 26 this hope was blasted by the arrival from Fort Yukon, in a poling boat, of Capt. J. E. Hansen, the assistant superintendent of the Alaska Commercial Company, with the announcement that no more boats could get up with cargoes on account of the low water on the Yukon Flats. This announcement produced a panic, as it was realized that the supply of food was not sufficient to carry those already in the district through till next June, while people without supplies were pouring into town from the upper river by hundreds. The news reached the gulches the next day, and within twenty-four hours most of the claim owners and miners came in to ascertain the truth and learn whether their orders at the stores could be filled. The Alaska Commercial Company announced to the public that they could fill all orders which had been placed before September 1, with a slight curtailment in flour and two or three other items, but that it would be impossible to fill orders placed after that date, and advised all persons without supplies for the winter to go down the river to Fort Yukon, where they had six or seven hundred tons of provisions cached. The North American Transportation and Trading Company assured their customers that they could fill their orders, and advised the people without supplies to remain in Dawson, predicating the advice on the assumption that all of their boats would get up. Subsequent events proved that the representatives of both companies were partially mistaken, Captain Hansen in his announcement that more boats would not arrive and Captain Healy in

his assumption that all of his boats would, for during the evening of the 28th the *Weare*, of the North American Transportation and Trading Company's fleet, reached Dawson, and in the afternoon of the 30th the *Bella*, belonging to the Alaska Commercial Company, arrived, the former with 125 tons of freight and the latter with 75 tons, both having lightened cargo sufficiently to get over the bars on the Yukon Flats, while no other boat of either company had got above Fort Yukon when the river closed, October 22.

The arrival of the *Weare* was hailed with the greatest manifestations of joy on the part of the people, who congregated on the river front to watch her progress as she fought her way up against the swift current to the landing; but when it was learned that she had only about 125 tons of freight aboard it was realized that the situation had not been relieved to a sufficient extent to render an exodus from Dawson unnecessary, and as many as could be accommodated, about 150 in all, took passage on the *Weare*, which returned down the river the next day. On the morning of the 29th the ice began to run in the Yukon, and it was evident that those who proposed to act on the suggestion of Captain Hansen, to go to Fort Yukon, would have to leave at once, as the river was likely to close within a week, and a delay of even two or three days might render the passage down in small boats extremely hazardous. The Canadian authorities fully agreed with Captain Hansen as to the gravity of the situation, and early in the forenoon of the 30th issued the following notice:

The undersigned, officials of the Canadian Government, having carefully looked over the present distressing situation in regard to the supply of food for the winter, find that the stock on hand is not sufficient to meet the wants of the people now in the district, and can see only one way out of the difficulty, and that is an immediate move down the river of all those who are now unsupplied to Fort Yukon, where there is a large stock of provisions. Within a few days the river will be closed, and the move must be made now, if at all. It is absolutely hazardous to build hopes upon the arrival of other boats. It is almost beyond a possibility that any more food will come into this district. For those who have not laid in a winter's supply to remain here any longer is to court death from starvation, or at least a certainty of sickness from scurvy and other troubles. Starvation now stares every man in the face who is hoping and waiting for outside relief. Little effort and trivial cost will place them all in comfort and safety within a few days at Fort Yukon or at other points below, where there are now large stocks of food.

C. CONSTANTINE,
Inspector Northwestern Mounted Police.
D. W. DAVIS,
Collector of Customs.
FRED. FAWCETT,
Gold Commissioner.

SEPTEMBER 30, 1897.

This notice caused many to begin preparations for the journey to Fort Yukon, and fifty or seventy-five men had embarked in small boats

for that point by 3 o'clock in the afternoon, at which hour the *Bella* made her appearance around the bend below town and slowly cut her way through the floating ice to the landing. Although the *Bella* brought up but seventy-five tons of freight, the arrival of two boats within forty-eight hours revived the hopes of many that other steamers might reach Dawson, and had the effect of temporarily checking the movement down the river.

In the afternoon of the 30th the following notice was posted throughout the town:

Notice is hereby given that all persons who are not sufficiently provided with food for the coming winter will be taken out free of charge on the steamer *Bella*, which will leave to-morrow at noon. They should report at the Alaska Commercial Company's store to-morrow morning at 8 o'clock and sign an agreement as to their transportation. They are advised to take sufficient food with them to last them to Circle City, as no meals can be served on the steamer. Sufficient supplies can be obtained at Circle City to last to Fort Yukon.

The Canadian authorities have arranged with the Alaska Commercial Company to furnish free transportation.

C. CONSTANTINE,
Inspector Northwestern Mounted Police.

DAWSON, *September 30, 1897.*

Several meetings were held during the afternoon and evening to discuss the situation, at which the authorities, Captain Hansen, and others urged the necessity of as many as could be accommodated on the *Bella* taking advantage of the opportunity offered of free transportation down the river.

The next morning the following notices were posted on the doors of the Alaska Commercial Company's store:

This store has been appropriated by the Government for the purpose of regulating the transportation of unprovided people, and is declared closed for commercial purposes for the day.

C. CONSTANTINE.

Mass meeting will be held at 10 a. m., in front of the Alaska Commercial Company's store, to discuss the food situation at Dawson and the departure of unprovided people on the *Bella*.

In pursuance of these notices the Canadian authorities took charge of the store, and a meeting was held, at which Captain Hansen again urged the people to take advantage of the opportunity offered. After the meeting a large number of men presented themselves at the store and announced their intention of taking passage on the steamer, and they were required to sign the following special agreement:

DAWSON, NORTHWEST TERRITORY, *October 1, 1897.*

The officials of the Government of the Dominion of Canada, recognizing the gravity of the situation, have arranged to have all persons not provided with food for the winter carried free of charge to Fort Yukon on the steamer *Bella*, on the following conditions: That the steamer *Bella's* officers or owners are not to be held responsible for any delays or possible nonarrival at destination of any passengers or property carried; that all persons accepting passage agree to cut wood, or

in any other manner aid in furthering said steamer's voyage, as they may be called upon to do by the captain; that they are to provide themselves with food sufficient for the trip; that the undersigned specially agree that if the ice runs so thick as to endanger the steamer and she goes into harbor between Dawson, Northwest Territory, and Fort Yukon, Alaska, they will leave the steamer at the request of the master, E. D. Dixon.

This agreement was signed by 160 persons, to most of whom five days' rations were sold, a few without funds being furnished rations free of cost. The *Bella* left Dawson at 4 o'clock in the afternoon, October 1, 1897, and the writer took passage on her for Circle City. An account of the trip will be found elsewhere. It was subsequently ascertained by actual count that only 120 of the 160 who signed the agreement boarded the steamer, and it is a reasonable presumption that the forty who remained in Dawson attached their signatures simply for the purpose of securing five days' rations.

This section was prepared from data secured in Dawson previous to October 1, 1897. From the diary of a thoroughly reliable man who arrived in Circle City January 8, 1898, the following extracts are taken:

On October 4, 1897, a boat containing six men was caught in the shore ice right above town, and all on board were drowned.

Captain Hansen estimates that about 500 people have gone down to Fort Yukon and other points.

A meeting was held at the Opera House on October 9, at which speeches were made urging men to go down the river. Another meeting was held the next day in front of the Alaska Commercial Company's store at which speeches were made on the same lines, and as a result of this meeting a scow was furnished and provisioned by the authorities, and with 20 men aboard started down the river in charge of an Indian pilot. Captain Healey announced that his company could feed everybody, but that he had been imposed upon by large operators of mines who had secured double outfits through third parties.

During the first half of October several meetings were held by the miners at The Forks and a committee appointed to ascertain how many men were working in the gulches at $1 per hour. The committee visited every claim and cabin on the main creeks, but failed to find anybody who admitted that he was working for $1. They secured information in regard to one or two who were working for $1 per hour, and they dragged one such man out of the hole with a rope and told him not to work any more for $1.

On November 8 a meeting was held in Dawson to protest against the new mining regulations, at which a memorial to the Dominion Government was prepared. A committee of ten was appointed, which subsequently selected a subcommittee of three, to carry the memorial to Ottawa. The committee of three was provided with a fund of $18,000 and left within a few days for the outside.

Under the operation of the new regulations a prospector is allowed to locate 200 feet, 100 belonging to him and 100 feet being reserved by the Government. The uncertainty as to the enforcement of the royalty clause makes it impossible to secure any information as to the output of the mines, as the owners refuse to tell how much they are producing. We have heard the last of big pans in the Klondike district.

Captain Healey has paid $325,000 for 27, 28, and 29 above Discovery on Bonanza—the largest sale so far reported.

Outfits are being sold as a whole for $1 and $1.25 per pound and many men are going out of the country. Candles sell at from $40 to $75 per box; flour, $80 to $150 per 100 pounds; whisky, $30 to $35 per gallon; champagne, $500 a case. One restaurant started November 1, charging $3.50 per meal; porterhouse steak, $5. There is plenty of meat. The meals consist of bacon and beans, corn, tomatoes, and steak, with bread, butter, and coffee. December 15 three restaurants were running, with prices as above. Dogs sell as high as $350 apiece, and $1,700 has been paid for a team of five dogs. Fare to Dyea by dog team, from $500 to $1,000, passenger being allowed to walk, simply having his outfit carried. Coal oil is quoted at $20 per gallon, but can not be obtained.

The large number going out over the trail, estimated at from 300 to 500, has greatly relieved the food situation. Supplies make their appearance whenever prices sufficiently attractive are offered for them, say $2 per pound, and the speculators are reaping a rich harvest. There will probably be no actual starvation in the district, but a very large proportion of the gold dust that was in general circulation at the beginning of the winter will by spring be concentrated in the hands of the few who hold the keys to the grub boxes.

THE TRIP OF THE BELLA.

When the *Bella* swung into the stream at 4 o'clock in the afternoon of October 1, 1897, to attempt the perilous passage to Fort Yukon, almost the entire remaining population of Dawson was congregated on the river front to watch her departure. Eldorado and Bonanza "kings" touched shoulders with prominent business men; prosperous gamblers and saloon keepers, passive spectators of the scene, smiled complacently as they congratulated themselves on being able to remain with their "mints" during the winter, while here and there in the throng could be seen a representative of that unfortunate class of women which our more highly civilized and enlightened communities can always produce in ample numbers to supply the demands of every mining camp. Gazing on the receding sea of faces it did not require great skill in physiognomy to reach the conclusion that if the object of the promoters of this movement was to rid the town of its tin-horn gamblers, low-grade harlots, and cache robbers, they had so far signally failed, for these, some three or four hundred strong, were still in Dawson, where they will remain, it is presumed, to pursue their devious ways and fatten on the spoils of a lax morality.

The weather was raw and cold, with a piercing north wind blowing, and a leaden wintry sky hung like a pall over the landscape and emphasized the crudeness of the town.

During the day the bow of the steamer had been encased at the water line with an eighteen-inch strip of sheet steel, to protect the hull against the action of the ice, which was running in the river so thick and heavy that when the larger cakes struck the boat the grinding crash could be heard above the noise of the machinery, and the force of the impact jarred her from stem to stern. As the *Bella* entered the current, and the attempt was made to head her downstream, it was

found that she would not answer the helm, and she was carried helplessly down the river, stern first, by the five-mile current. An examination of the rudder disclosed that the stretcher had been bent by the ice, and steps were at once taken to repair it. The boat drifted a mile or two, turning completely around once or twice in that distance, when the damaged rudder was repaired and the boat gotten under control. She proceeded without further trouble to a point about forty-five miles below Dawson and eight miles above Forty Mile, when it was discovered that the suction pipe of the well which feeds the boiler was clogged with anchor ice, making it impossible to supply the boiler with water, and the boat was run ashore at 7 o'clock and tied up for the night.

The *Bella* is a boat of 150 tons, built for towing barges, and has no accommodation for passengers. There were 130 people aboard, including the crew, so the problem of finding a place to spread one's blankets for the night was a difficult one for the more diffident to solve. Many secured fairly comfortable quarters, so far as warmth was concerned, in the boiler and engine rooms, on the cordwood, and elsewhere; others spread their blankets on the tables in the mess room and on the floor of the cabin, while a few were forced to sleep on the open deck. Most of the passengers were well supplied with blankets and clothing suitable for the climate, but quite a number were insufficiently clad, especially as regards footwear, and poorly provided with blankets. For supper every man shifted for himself, drawing on his rations of hard-tack and bacon, which had been secured at Dawson.

During the three-hour run from Dawson an occasional glance from the deck revealed the fact that the boat was passing some of the most picturesque scenery on the continent, but as it would require a stoic and a poet combined to appreciate scenery, not to speak of describing it, under such dismal circumstances, this subject must be left to abler pens and to the camera. A more profitable and absorbing subject presented itself in the cargo of living freight aboard the *Bella*, and the long and dreary evening was spent in studying human faces and in listening to the stories of many of the passengers and learning the details of their rough experiences. By actual count there were 120 persons aboard who had signed the transportation agreement at Dawson. A few were of the class of unfortunates who are constantly "moved on," and to them their present surroundings were worse only in degree than those to which they had been accustomed; but it was apparent that to the great majority it was a hard and bitter trial—a humiliating denouement to what they had fondly dreamed would be a most successful venture. At best, they faced eight months of enforced idleness in an inhospitable climate, with perhaps no habitation better than a tent or a mere shack, and an almost absolute certainty of short rations. The passage down the river was considered, even by the captain and the crew, as extremely dangerous, for if the boat should be caught in an ice jam in midstream, an event imminent at every bend, she would be cut to pieces in a few hours, with the probability that but few

of the passengers would get ashore alive. Even if she should escape this great danger and be forced to go into winter quarters at Forty Mile there would be the long wait of six weeks for the ice to form, and then the long journey afoot to Circle City, a distance of 240 miles—an undertaking which but few men are equipped by nature to endure under the most favorable conditions, and which to many of the passengers, unaccustomed as they were to hardship and unprovided with suitable clothing and robes, would mean starvation or death from exhaustion and freezing. That the passengers on the *Bella* showed such fortitude, forbearance, and equanimity under the trying ordeal is remarkable. The superb discipline which by common consent was maintained throughout the journey may be accounted for by a fact which was elicited the next morning at Forty Mile. In taking a poll of those who had signed the transportation agreement, it was learned that 112 were citizens of the United States, while but eight were of other nationalities—six Canadians and two Russians. The result of this poll gave emphasis to another fact, which is apparent to the intelligent observer on the ground, and that is that fully 75 per cent of the people in the Klondike district are American citizens; in fact, it is evident to all who have studied the movement of events in the Yukon Valley during the past five years that if it had not been for American enterprise the Klondike and its tributaries, instead of attracting as they do the attention of the world, would be now, as in the past, chiefly noted as the spawning ground of the salmon and the haunt of a particularly ferocious species of bear.

Another significant fact elicited by careful inquiry was that many had signed fictitious names to the transportation agreement, fearing that a possible publication of the names might reveal to their loved ones at home their unhappy predicament and perhaps, through exaggeration of the situation, cause needless anxiety as to their condition. Among those conversed with were three physicians, who by their conversation and their diplomas showed that they were skilled in their profession, one having given up a growing practice in Chicago to seek a wider and more profitable field on the Klondike; a watchmaker, with three thousand dollars' worth of fine watches, etc., which the lack of supplies had prevented him from disposing of to advantage in Dawson; a half dozen farmers from Iowa, Nebraska, and other States, who had hoped to obtain here enough gold to enable them to pay at least the interest on their mortgages, which had been increased to secure the means for this venture; a bank clerk from Boston, who had left a $2,000 position with the intention of going into business for himself in the new gold fields; three or four lawyers, from as many different cities, who had come here with the view of building up a lucrative practice in mining litigation, but whose only practice up to the present time had been an occasional exhibition of their knowledge of the rules of order and parliamentary procedure at miners' meetings; a feeble old man of 76, who by appealing to numerous friends and relatives had managed

to scrape together $500 to invest in this last chance, and who epitomized his grievous condition by saying, "I would rather starve or freeze to death here among strangers than to die of humiliation and a broken heart at home." These and many others told their tales of struggle and hardship and shattered hopes—all pervaded by a pathos that brought the heart to the throat and was far too intense for tears—and would not be comforted.

At 6 o'clock the next morning the boat got under way, and about two miles above Forty Mile began to "drift" again, her rudder having been badly injured by the ice. By this time the volume of ice had increased to such a degree that it was absolutely necessary, in order to escape destruction, to make a landing, preferably in the mouth of Forty Mile Creek, which it was exceedingly difficult to do without a rudder. Fortunately, as the steamer approached the mouth of the creek her bow swung round, quartering upstream, and as she came opposite the mouth the engines were started, and a landing made on the lower side of the point formed by the south bank of Forty Mile Creek and the Yukon, where the boat was protected from the running ice in the river and for the time being safe. The captain announced to the passengers that as long as the ice ran so heavily it would be impossible to proceed, and that it would probably be two or three days before it would be safe to continue the journey. As there were only four days' rations aboard, a meeting was held to devise means of securing more provisions. This meeting was conducted in an orderly manner. The agent of the Alaska Commercial Company at Forty Mile, who had been a passenger on the *Bella* from Dawson, stated that he could furnish some flour, but that it would be impossible for him to supply anything else. As the result of the meeting a committee of three was appointed to visit the store of the North American Transportation and Trading Company, at Fort Cudahy, just across the creek from Forty Mile, and ascertain whether any provisions could be obtained there. The agent of the company informed the committee that he could supply enough provisions, with the exception of flour, to last the passengers ten days, the agent of the Alaska Commercial Company agreeing to furnish twenty sacks of flour. As a result of this conference the following bill of goods was purchased and taken aboard the steamer:

360 pounds of beans	$43.20
100 pounds of rice	25.00
200 pounds of dried fruit (apples, peaches, and prunes)	60.00
200 pounds of granulated sugar	75.00
50 pounds of coffee	37.50
20 pounds of tea	25.00
18 cans of baking powder	18.00
20 pounds of salt	3.00
100 pounds of bacon	40.00
1 case of lard	18.00
20 sacks of flour	120.00
Total	464.70

These goods were paid for by the passengers, the amount being apportioned pro rata. For the purpose of ascertaining the number of people aboard and their financial ability to stand an assessment, the poll above referred to was taken, and it was learned that nine were without means, while the others, as determined by a casual observation of their sacks as they made payment, had from $20 to $1,000 apiece, there being probably $35,000 or $40,000 in gold dust among the passengers. There were quite a number of old-timers aboard, nearly all of whom were well supplied with dust, there being one man aboard who had sold his mine on Bonanza for $30,000 and had with him $10,000 in gold dust. The charge had been freely made in Dawson and on board the steamer that there was an "invisible" supply of provisions in the Klondike district, and that the movement to send people to Fort Yukon was a ruse to get them away from Dawson so that the mine workers would have sufficient supplies to run the mines until freezing-up time next year, thus avoiding the great expense of summer packing. The fact that so many old residents, thoroughly familiar with the situation and amply able to purchase supplies, even at speculative prices, were forced to leave Dawson to secure provisions for the winter, would seem effectually to dispose of this charge.

A steward was selected by the passengers, with a volunteer corps of cooks and waiters, and messes of thirty formed. The cooking was done in the galley, and two meals a day were served—breakfast at 8 and dinner at 5. As the items in the bill will indicate, the menu was not exhaustive, but there was plenty for all, and everybody accepted the situation with the best possible good nature.

The agent of the Alaska Commercial Company had brought down on the steamer from Dawson a ton or so of provisions for the subsistence of the company's mess at Forty Mile, and some of the passengers conceived the idea of confiscating these goods for use, in case the boat was unable to proceed, during the long journey on the ice to Circle City. A meeting was held on October 3 to consider the matter, and after some discussion a vote was taken on the question, with the result that the agent was allowed to remove his goods.

On the same day there was a movement on the part of a few dissatisfied passengers to force the captain to proceed down the river. The captain explained the difficulties of running the boat in the ice, stating that the rudder and the wheel would inevitably be cut to pieces and the boat rendered helpless in midstream. This explanation was accepted as final, and no further action was taken in the matter.

From October 4 to 7 the temperature ranged from 6 degrees below to 22 degrees above zero in the morning, rising to from 12 degrees to 27 degress above during the day, and the ice continued to run, getting thicker and harder from day to day until the 8th, when the weather became warmer and the ice thinned out considerably. The captain announced to the passengers that evening that if the condition of the

ice continued to improve he would make an attempt to start for Circle City the next day.

At 8 o'clock in the morning of the 9th the temperature was 25 degrees above zero, and the river had become so nearly clear of ice that the captain decided to proceed on the journey. While the *Bella* lay in the mouth of Forty Mile Creek the ice had formed around her to a thickness of six inches, and extended to the running water in the Yukon, a distance of about 100 feet from the stern of the boat. Several hours were spent in cutting a channel about forty feet wide through this ice to the running water, the released ice floating into the river in immense cakes, one of which was perhaps thirty feet square. In the meantime another small supply of provisions had been secured from the companies, consisting of five sacks of flour, 100 pounds of dried fruit, and 200 pounds of beans. It was calculated that this addition to the commissary would enable the passengers to stand a siege of five or six days' duration. At 1 o'clock p. m. the line was cast off, and the *Bella* was soon in midstream, again battling with the ice. Her bow had scarcely swung downstream when her rudder for the third time became useless, and the same old performance of drifting at the mercy of the current was repeated. After floating thus for a mile the rudder was repaired, and the boat proceeded for an hour or so without further trouble.

At 2.10 p. m., as the boat approached a bend in the river, an immense ice jam was encountered, the ice in many places being piled to a height of ten or fifteen feet and apparently extending clear across the river. It seemed impossible for the boat to get through, and she was tied up to the bank and the Indian pilots sent ahead to inspect the jam. After a walk of a mile down the bank they returned and reported that the channel was open. Advantage was taken of the stop to put the rudder in good condition, and at 3.10 the boat renewed her journey, reaching the wood yard, twenty-three miles below Forty Mile, at 5 o'clock, where a supply of wood was taken on and the boat remained for the night.

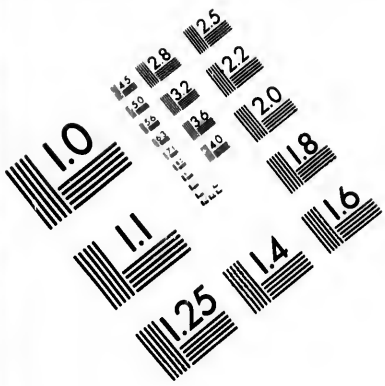
The next morning (Sunday) at 6 o'clock the steamer proceeded on her way. The mouth of Boundary Creek, thirty-five miles below Forty Mile, was passed at 8 o'clock. At this point the boundary line between American and British territory crosses the Yukon, intersecting the river at nearly a right angle. The line is distinctly marked by a strip cut through the timber from the river bank to the summit of the mountain on either side. At 10.30 the rudder again became unmanageable, and in spite of all the pilots could do the boat ran her nose into the bank; but no damage was done, and she got off into deep water almost immediately. At 1.40 we passed two men in a small boat, fighting their way through the ice, on the way to Fort Yukon, and at 2 we passed two more men who had adopted the same means of getting to the food supply.

At 3.25 p. m., at a point about sixty-five miles above Circle City, the boat ran on a sandbar in the middle of the river, with 200 yards of

swift water full of running ice on either hand. She swung around broadside to the bar and stuck there for forty-nine hours, during all of which time the ice was coming downstream at a speed of five miles an hour and pounding with terrific force against the upper side of the hull. The pressure of the current against the boat pushed her high up on the bar, forming a ridge of gravel at the lower side that was visible above the surface of the water amidships for a distance of twenty feet.

This accident furnished a striking example of the stupidity and unreliability of Indian pilots, and proved conclusively that they are not good readers of water. The captain, who had been in the pilot house all day anxiously watching the course of the boat and assisting the pilots over the bad bars, was forced to leave his station for a few minutes, and had hardly turned his back on the pilot house when the accident occurred. At this point the river is about 500 yards wide, having a channel on either shore, with an expanse of comparatively slack water in the center, which would indicate to anyone at all familiar with the river the existence of a bar. The boat had been following the left-hand channel, which was broad and deep; but the pilot attempted to run the boat across the head of the bar into the right-hand channel, the natural consequence being that she struck the bar, broadside on

The crew were immediately set to work to spar the vessel off the bar. This operation consists in planting a spar (a twenty-five-foot spruce log, twelve inches in diameter) on the bed of the river, at the lower side of the bow, and rigging a block and tackle on the upper end, attaching the rope to the capstan, and then by the application of steam power swinging the boat gradually upstream. When she has been worked up as far as the first spar will carry her, the other spar is used in like manner, and the operation repeated until the bow is straight upstream, when the engines are started forward and a slight application of power by the capstan swings the boat around so that the current catches the bow and throws her off into deep water. This is an exceedingly tedious process, even under the most favorable circumstances, but owing to the great pressure exerted by the swift current against the upper side of the boat it was exceptionally so in this case. The bow would no sooner be swung upstream twenty or thirty feet than a pulley hook would break or straighten out, and the boat would be thrown by the current back to her original position. During Monday several pulley hooks were thus straightened, and at 11 o'clock in the forenoon one of the spars was broken, and as it was impossible to work with one spar it was necessary to send men ashore in a small boat to secure a new one, a very dangerous undertaking on account of the condition of the river. A half day was lost in this work, and the new spar had hardly been set when the second old one broke, and still another new one had to be brought from shore. At this stage night set in, but little progress having been made, and the outlook was very disheartening. It was thought by many, even the captain sharing in the opinion, that it would



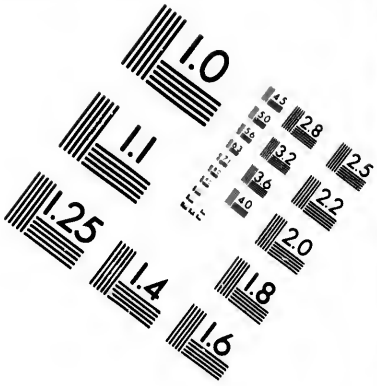
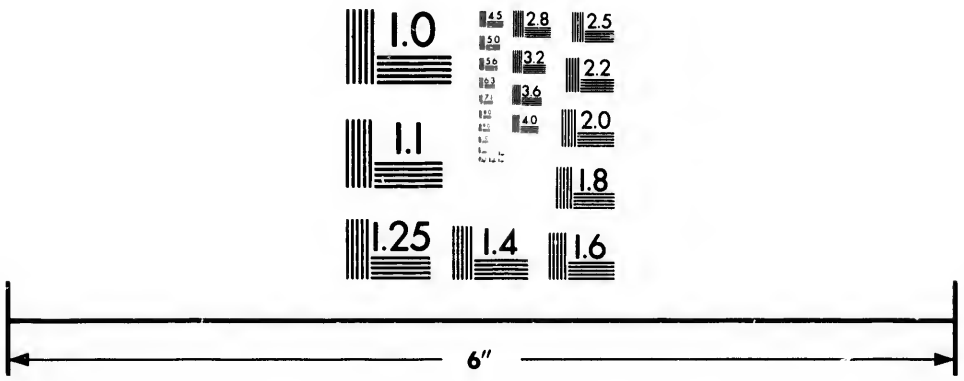
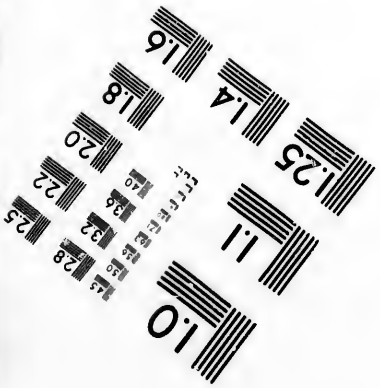
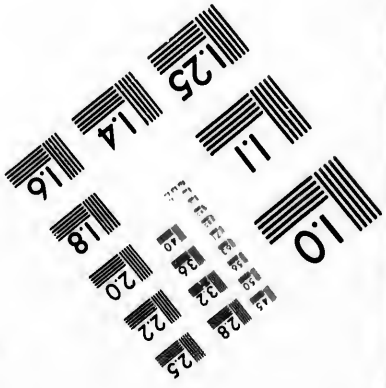


IMAGE EVALUATION TEST TARGET (MT-3)







Photographic Sciences Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

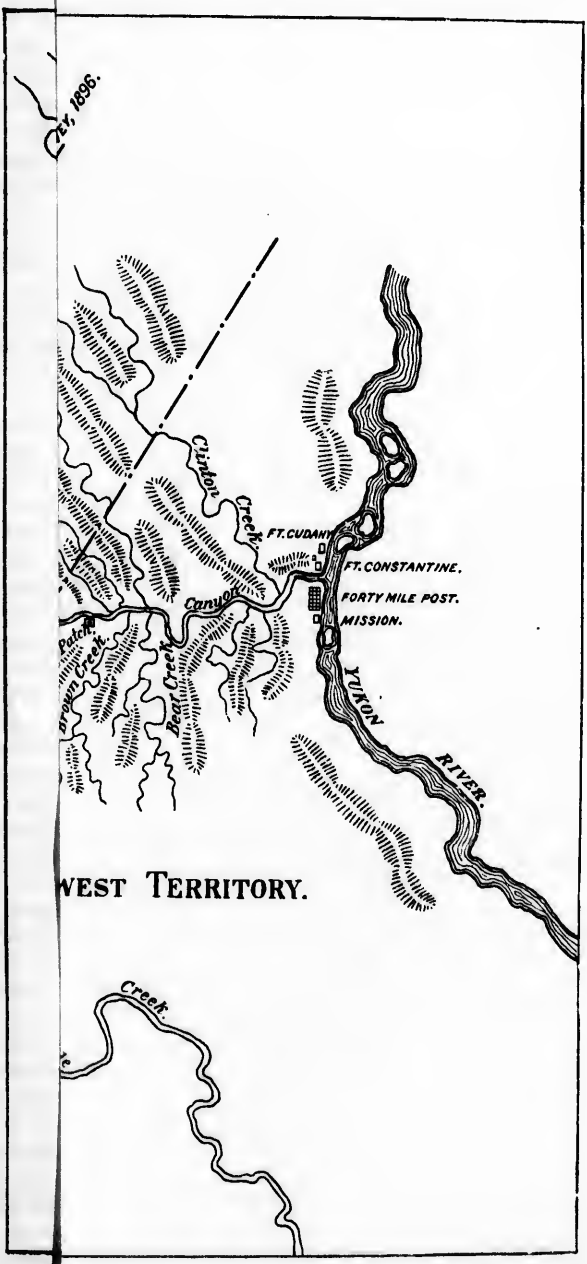
be necessary to abandon the steamer and go down the river on rafts, there being but two or three small boats available. Fortunately the ice was decreasing rapidly, both in volume and hardness; if it had increased to the quantity which was passing down the river during the tie up at Forty Mile, the boat would undoubtedly have been cut to pieces. During the afternoon an immense cake of ice, which was recognized by all as that which had been cut from the channel at Forty Mile, was discovered approaching the boat. It just cleared the hull, but struck the wheel, giving the boat a terrific jar and carrying away one of the blades of the wheel, and then passed on without doing further damage.

During Tuesday forenoon considerable progress was made, the bow having been swung upstream about 45 degrees at 12 o'clock. At 4.30 in the afternoon the boat pointed straight upstream, the engines were started and one more pull on the capstan sent her off into deep water, where the swift current caught her and sent her on the way to Circle City, with a very happy crowd aboard. But the troubles were not yet over, for the steamer had gone only a mile or two when the suction pipe of the well again froze up and a landing was made for the night. At 10 o'clock that night a scow from Dawson, in charge of an Indian pilot and containing twenty-one men, hove in sight and tied up just below the steamer. This scow had left Dawson fifty-two hours before, and by traveling day and night had made a distance of 240 miles. The captain offered to take the passengers from the scow aboard, but after hearing the story of the *Bella's* troubles they decided to stick to the scow, and proceeded down the river at once. As afterwards learned, they traveled all night and reached Circle City at 10 o'clock the next morning, and thence passed on to Fort Yukon.

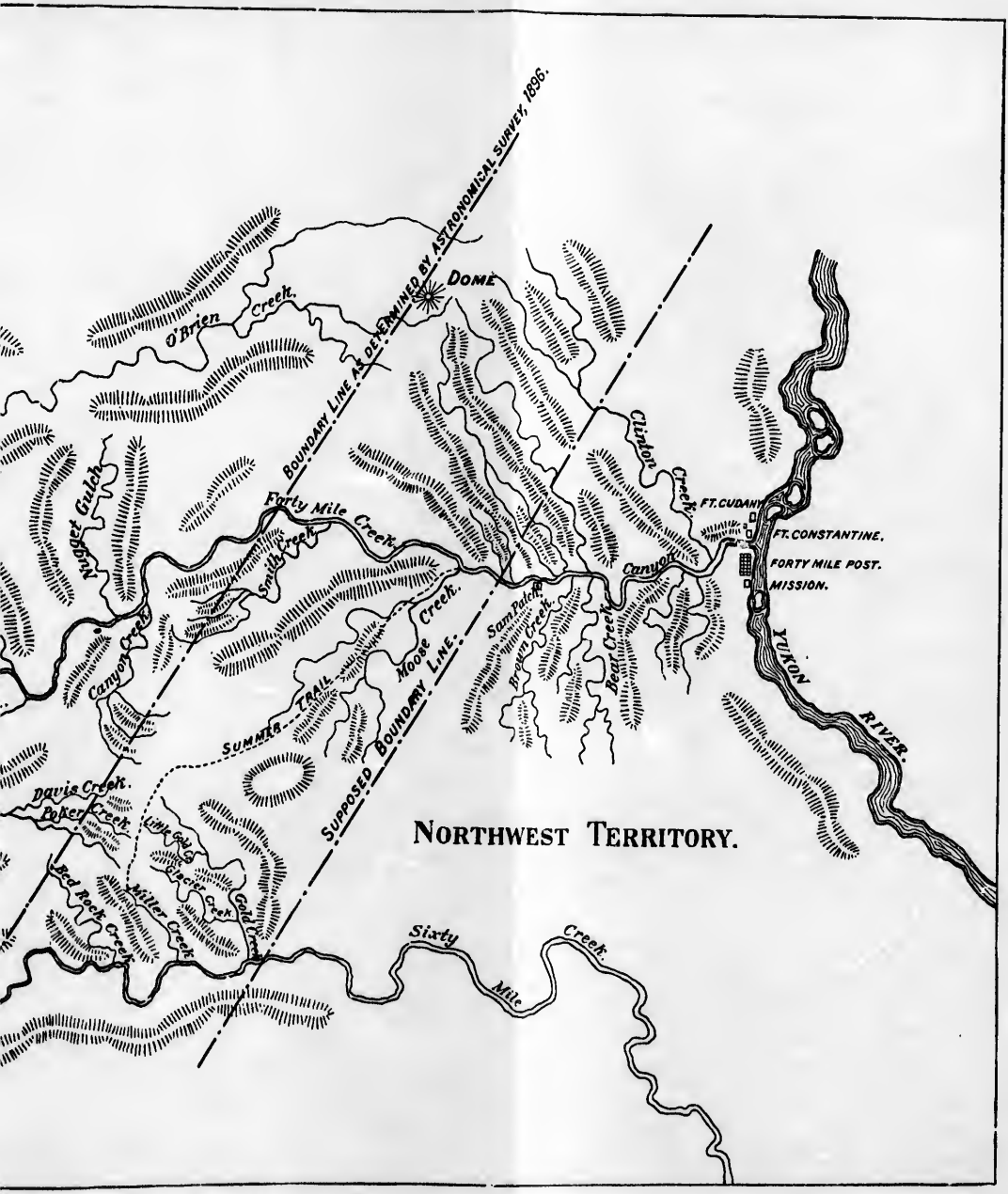
The next morning the steamer got under way at 6 o'clock, and at 1 p. m. she reached Circle City, having been thirteen days in making 300 miles, and having furnished to all her passengers enough experience in navigation of the Yukon to thoroughly satisfy the most adventurous. Here it was ascertained that the river had closed this side of Fort Yukon, and the *Bella* went into winter quarters in a slough just off the upper end of town, while most of her passengers passed on to Fort Yukon in small boats, a few remaining in Circle City for the ice to form before proceeding to that point.

FORTY MILE.

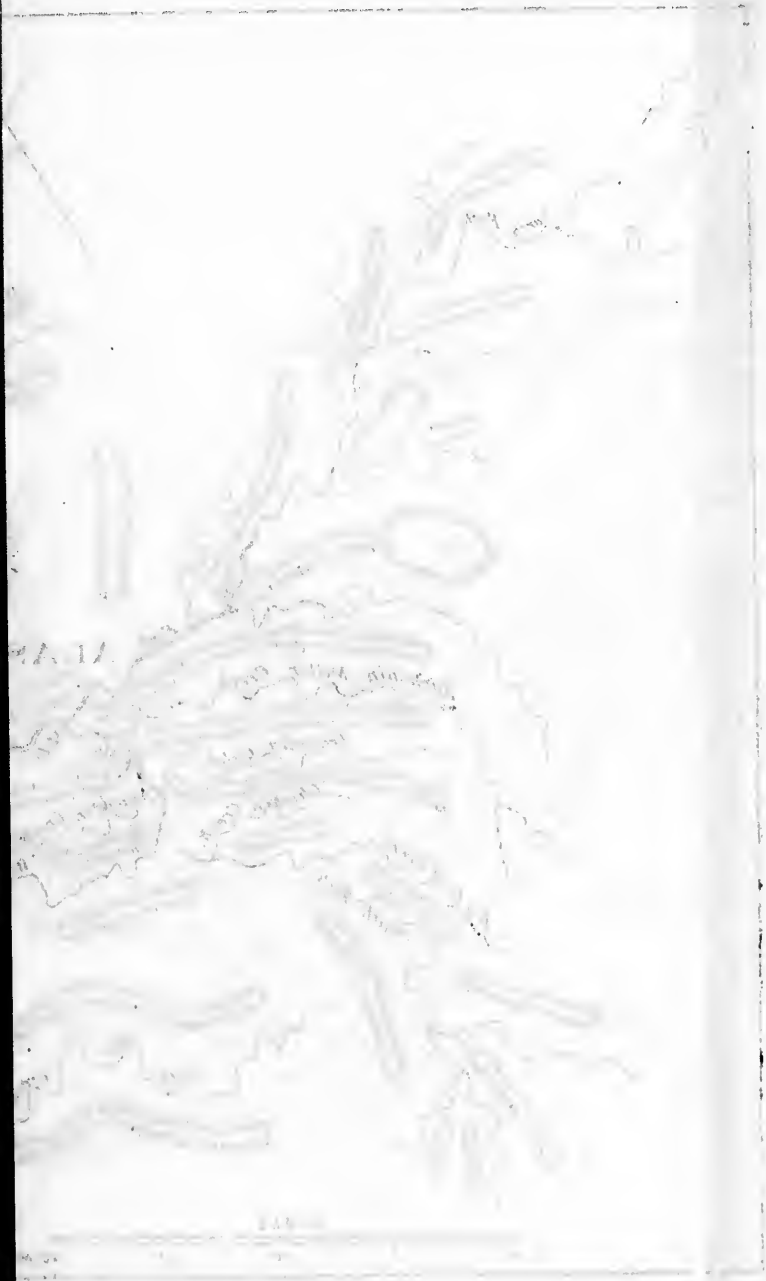
The first discovery of gold in American territory in the Yukon Valley was made in 1886 at Franklin Bar, on Forty Mile Creek, thirty-five miles above its mouth. This creek, which is about 250 miles long, received its name from the fact that it enters the Yukon forty miles below old Fort Reliance. The first steamboat that came up to Forty Mile post arrived there July 27, 1887, at which time eighty-five men were at the mouth of Forty Mile Creek, subsisting almost entirely on


Clinton Creek
FT. CUDAHY
FT. CONSTANTINE.
FORTY MILE POST.
MISSION.
Canyon
Bear Creek
YUKON RIVER.
WEST TERRITORY.
Creek

FORTY MILE DISTRICT, SHOWING BOUNDARY



DISTRICT, SHOWING BOUNDARY LINE.



fish, which t
$200,000 and
were about 11
productive, n
yielding gold
Franklin G
good returns.
from $2,000 t
In 1893 Mil
trict, yielded
produced $35,
having taken
creek is a tr
district. Dur
took out from
Glacier Cre
tively rich cre
the claims on
the water in
Walker's F
Forty Mile Cr
Chicken Cr
n American t
Mile Creek ab
rregular, and
laims on Chi
he district cl
Fifteen men a
At the tim
nd seven hu
deserted the
being now onl
many creeks
Those claims
basis of $1.5
The cost of li
like district.
rom 40 to
ents for wint
ndescribably
As is the ca
miles through
which can not
will furnish e
when improve
t reasonable
Mile Creek an

fish, which they caught with nets. The mines produced between $200,000 and $300,000 the first season, and in the winter of 1887 there were about 115 men in the district. Forty Mile district has been very productive, nearly every creek that has been prospected thoroughly yielding gold in paying quantities.

Franklin Gulch has produced a great deal of gold and is still yielding good returns. In 1888 about 100 men, working on the bars, took out from $2,000 to $3,000 apiece.

In 1893 Miller Creek, which has been the best producer in the district, yielded about $300,000, a space of ground 30 by 100 feet having produced $35,000. It has continued to yield large returns, John Miller having taken $55,000 from his claim during the season of 1896. This creek is a tributary of Sixty Mile Creek, but is in the Forty Mile district. During the seasons of 1896 and 1897 quite a number of men took out from $3,000 to $8,000 apiece on Miller Creek.

Glacier Creek, so named from the glacial formation, is a comparatively rich creek, but great difficulty has been encountered in working the claims on account of the ice. The creek bed is practically a glacier, the water in many places running through solid blue ice.

Walker's Fork and Napoleon and Davis creeks, all tributaries of Forty Mile Creek, have many good claims.

Chicken Creek, which was discovered two years ago, and which is in American territory, is the best creek in the district. It enters Forty Mile Creek about 150 miles above its mouth. The ground is rich, but irregular, and consists of both winter and summer diggings. The claims on Chicken Creek are 1,320 feet long, but on all other creeks in the district claims are 500 feet long, local mining regulations prevailing. Fifteen men are working on the creek this winter (1897–98).

At the time of the strike in the Klondike there were between six and seven hundred men in the Forty Mile district, most of whom had deserted the creeks and gone to the new gold fields by spring, there being now only thirty or forty men working in the district. There are many creeks that can be worked profitably with wages at $10 a day. Those claims which are being worked at present are operated on the basis of $1.50 per hour, as men can not be secured for less wages. The cost of living in the mines is practically the same as in the Klondike district, the charge for summer freighting to the mines ranging from 40 to 50 cents a pound, according to distance, and from 8 to 10 cents for winter packing. The trail, like all trails in this country, is indescribably bad.

As is the case throughout the mineral zone, which extends for 1,000 miles through the Yukon basin, there are many creeks in this district which can not be worked profitably under present conditions, but which will furnish employment to thousands of men for a long period of years when improved transportation facilities enable them to procure supplies at reasonable prices. This is especially true of the North Fork of Forty Mile Creek and its tributaries, all in American territory, where there

are large areas of placer ground that will yield from $7 to $10 a day to the man, and which under the application of hydraulic processes will eventually produce many millions. There is also a great deal of quartz of a very promising character on the North Fork. A conservative estimate of the output of Forty Mile district to date places it at $3,000,000.

The town of Forty Mile occupies a level tract of land on the west bank of the Yukon and the south bank of Forty Mile Creek, and faces both streams for a distance of half a mile or so. The site is a most eligible one, having perfect drainage, the only drawback being that at the highest stages of water it is liable to overflow in places to a depth of a foot or more. The town contains about 200 cabins and twenty or thirty larger buildings, a few of which are two stories in height. The store and warehouses of the Alaska Commercial Company are the principal buildings in the place, and the company has a large and comfortable two-story house, used as living quarters by their employees. In the fall of 1896 the town had a population of about 500, but by spring nearly all had gone to the Klondike, and the white population at the present time does not exceed twenty-five or thirty.

A mile above the town is situated the mission of the Church of England, in charge of Bishop William Bompas, who established the present mission in 1892. Previous to his arrival here the bishop was engaged for over twenty years in missionary work among the Indians on Mackenzie River. He has a corps of assistants, and is doing good work among the native and half-breed children, having a school with ten or fifteen scholars in daily attendance.

On the opposite side of Forty Mile Creek, facing the Yukon, is located Fort Constantine, the headquarters of the Northwest mounted police, which was established in 1895. The post at the present writing is garrisoned by about twenty members of the force. The barracks consist of a half dozen substantial buildings, forming a hollow square, and are surrounded by a high stockade.

A quarter of a mile farther north, fronting on the Yukon, is Fort Cudahy, the headquarters for this section of the North American Transportation and Trading Company. The buildings are the largest and finest on the river, with the exception of the new establishments of the two commercial companies at Dawson.

Both companies have very meager stocks of goods at Forty Mile, having been unable to furnish their regular customers with full outfits for the winter, many being forced to go down the river for provisions. This is no new state of affairs here, there having been a shortage of supplies, more or less serious, every year since the settlement of the district. In 1880 ninety-two men were forced to leave Forty Mile for the winter on account of the scarcity of provisions, taking passage October 10 on the steamer *New Racket* (now known as the *Pelly* and in retirement at Fort Selkirk) for various points below. Some stopped at Rampart City and others at Nulato, while the majority went all the

way to St. Michaels, spending the winter there and returning on the first boat in the spring, being obliged to sled sixty or eighty miles to get to the steamer. Thirty-five men wintered on Forty Mile Creek and its tributaries. An old pioneer who passed the winter there furnished the following statement: "I left the post for Franklin Gulch in the fall with fifty pounds of flour. Some men had from two to three hundred pounds of flour, but that was far above the average, and we had to stint ourselves. The winter was mild, 64 degrees below zero being the lowest temperature recorded. The hunting was good, and we had plenty of moose and caribou; so there was not much suffering. We had no lights, no candles, and no oil. We were fortunate in having a good supply of ruta-bagas, grown at Forty Mile post during the previous summer. They cost us 10 cents a pound there, and we paid 10 cents a pound to get them up."

Wages in Forty Mile are $10 a day for all kinds of labor. Before the Klondike strike wages were $6 a day in town and $10 in the gulches. Wood costs $24 a cord, ready for the stove. Prices in the stores range about the same as at Dawson, with very few exceptions.

The town of Forty Mile is in Northwest Territory, but up to 1896 it was supposed by the miners that all of the principal creeks in the district were in Alaska. In the winter of 1895-96 Mr. William Ogilvie, the surveyor for the Dominion Government, completed the survey of the boundary line in this vicinity, the result of which showed that many of the best creeks are in Northwest Territory. The following notice, issued on the completion of the survey, is self-explanatory:

Notice is hereby given that the following gold-bearing creeks, or parts of creeks, have been found by astronomical survey to be within the Dominion of Canada, and therefore subject to Canadian jurisdiction and the laws of the Dominion of Canada:

Gold Creek.
Glacier Creek.
Miller Creek.
All but one mile of Bedrock Creek.
Moose Creek.
First fork of Moose Creek.
Twenty-three miles of Forty Mile River.
One mile of the three heads of Smith Creek.
One mile of the several heads of Canyon Creek on the east side of the main stream.
About one mile of Davis and Poker creeks, branches of Walker Creek.

The boundary line has been plainly and unmistakably marked by cutting through the woods down to and up from the creek beds to the hilltops, and on the hilltops and other points where stones were convenient cairns of stone are erected, with stakes in them, to mark that portion of the line.

Dated at Fort Constantine this 15th day of May, 1896.

C. CONSTANTINE,
For Dominion Government.

Mr. Ogilvie's determination of the boundary line is accepted by the miners of the district as final.

AMERICAN CREEK, SEVENTY MILE CREEK, AND MINOOK CREEK DISTRICTS.

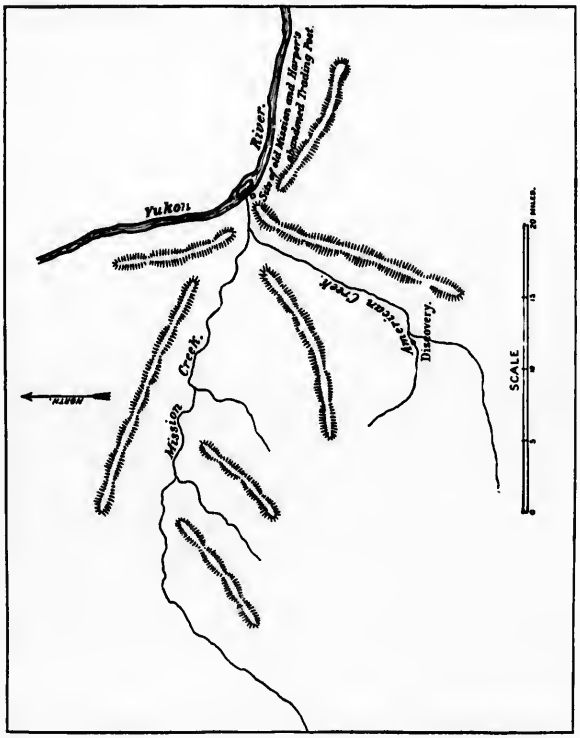
In 1895 gold was discovered on American Creek, a tributary of Mission Creek, which enters the Yukon from the west forty-five miles below Forty Mile. American Creek, which is about twenty miles long, flows into Mission Creek from the south at a point two miles above the Yukon, and is in American territory. The original discovery was made about six miles above the mouth and the creek was located to the forks, six miles above Discovery. (*a*) It was found impracticable to work the main creek on account of the difficulty of controlling the water, several washouts occurring during the early summer. It was therefore abandoned, and both forks were located for a distance of four miles above their confluence. The claims on American Creek are 1,320 feet long, and during the past season seven of these were worked, almost exclusively by the owners, only two or three men being employed for wages, which were $15 per day. The yield was about $20 a day to the man, and the creek produced between $15,000 and $20,000. On the main creek, from the mouth to the canyon, a distance of four miles, the ground is about six feet deep, but above the canyon it is shallower, running from two to four feet. The main creek for its entire length gives promise of proving very productive under hydraulic processes. On the benches there are gravel banks 200 feet in depth, which show colors wherever prospected. There is an abundant supply of water and good grade and dump. American Creek gold is worth $18.85 per ounce.

Seventy Mile Creek, which is about 150 miles long, flows into the Yukon from the west, seventy miles below Forty Mile, from which fact it takes its name. Gold was discovered on this creek in 1887, at a point about thirty-five miles from the mouth. During the summer of 1888 several men took from the bars, with rockers, $50 a day apiece. Fifteen men were employed there last summer, and they report good results, probably averaging $2,500 apiece for the short season. It is very difficult to get supplies into the Seventy Mile diggings during the summer, owing to numerous falls and rapids in the creek, which make it almost impossible to ascend it in boats and necessitate the packing of provisions over a bad trail. The miners, therefore, sled their supplies up during the winter. The claims are 1,320 feet in length, and the creek is located for a distance of five or six miles. There are also a few locations ninety miles from the mouth. The creek and its tributaries have merely been prospected in the most superficial manner, but enough is known of the locality to justify the prediction that it will eventually prove, under hydraulic methods, one of the most productive

a This does not agree with the accompanying map, but the author who furnished both map and text being still in Alaska it is impossible to reconcile the differences. The map, however, is believed to be correct.

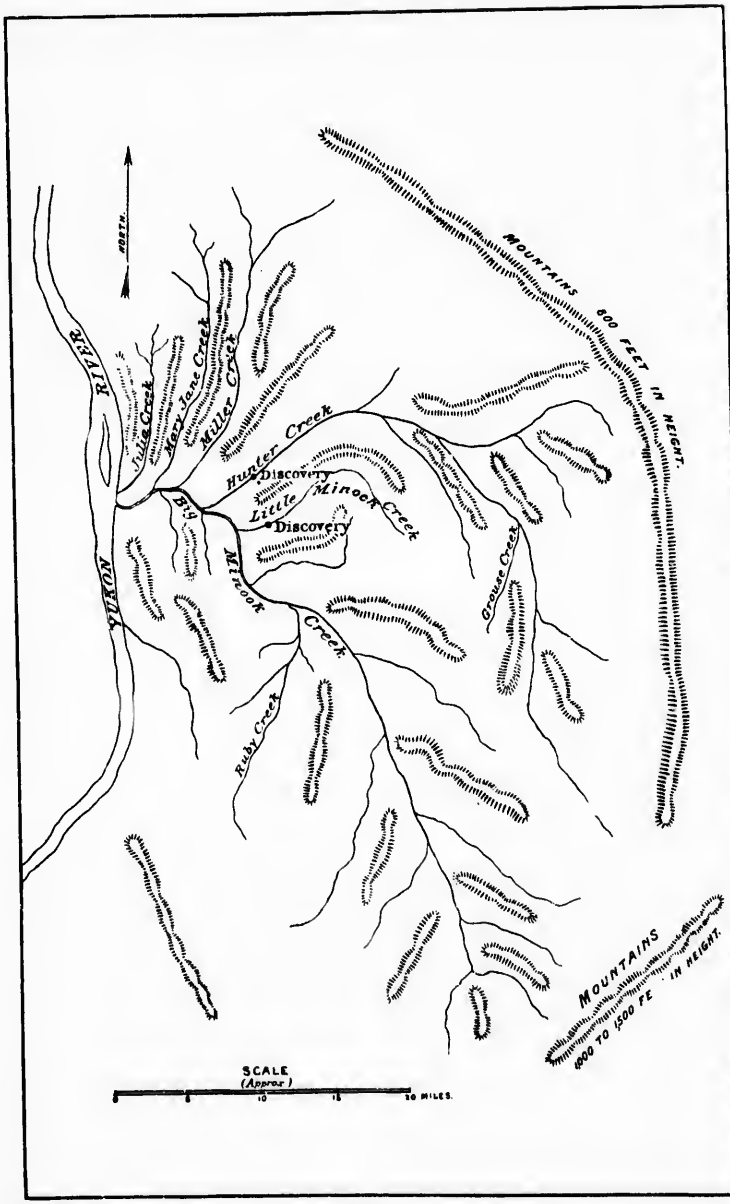
a tributary of Mis-
rty-five miles below
ty miles long, flows
o miles above the
liscovery was made
located to the forks,
racticable to work
trolling the water,
r. It was therefore
tance of four miles
Creek are 1,320 feet
ere worked, almost
being employed for
ut $20 a day to the
l $20,000. On the
e of four miles, the
on it is shallower,
or its entire length
ydraulic processes.
depth, which show
nt supply of water
is worth $18.85 per

long, flows into the
ile, from which fact
creek in 1887, at a
ring the summer of
s, $50 a day apiece.
d they report good
short season. It is
diggings during the
creek, which make
ssitate the packing
e, sled their supplies
in length, and the
. There are also a
creek and its tribu-
erficial manner, but
ediction that it will
the most productive



AMERICAN CREEK DISTRICT, ALASKA.

author who furnished
econcile the differences.



MINOOK CREEK DISTRICT, ALASKA.


FEET IN HEIGHT.
AINS
00 FE . IN HEIGHT.

CIRCLE CITY, ALASKA.
(The three parts united form the complete picture.)

districts on the Yukon. There is a great deal of quartz on the head waters, in the zone which extends across the divide from the North Fork of Forty Mile.

Minook Creek, which flows into the Yukon from the south fifty miles above the Tanana, was discovered in 1894. The best ground in the district, so far as known, is located on Hunter Creek, which comes into Minook from the east about five miles above its mouth. Hunter Creek is located for about fifteen miles. Little Minook Creek, flowing into Minook Creek a mile above Hunter Creek, is located for three miles. The claims are 500 feet long on all creeks except Little Minook, where they are 1,000 feet. Very good reports have been received from the Minook district, but no authentic information is at hand as to the value of the prospects. Some sales of claims at prices as high as $5,000 apiece have been reported. A large number of people stopped off at Minook during the past summer on learning of the shortage of provisions at upriver points, and many returned to that place from Fort Yukon. There are about 500 men spending the winter there, and it is probable that by spring it will be known definitely whether the district is as rich as the rumors indicate it to be.

CIRCLE CITY AND THE BIRCH CREEK DISTRICT.

Circle City, the most important town in northern Alaska, is situated on the west bank of the Yukon, about eighty-five miles in a direct line from the boundary between American and British territory, the distance to the boundary line by way of the river being 205 miles. The Yukon Flats stretch away to the northwestward 400 miles, having a uniform width of about the same distance, and presenting an almost unbroken expanse of hills and prairies as large as the States of Illinois and Indiana. The town is the distributing point for supplies for the Birch Creek mines, the richest and most extensive placer diggings in Alaska. It is the best built town on the Yukon, having about 300 comfortable cabins and quite a number of two-story buildings.

The Alaska Commercial Company has a large establishment here, consisting of a store building two stories in height, 30 by 52 feet, constructed of logs; two warehouses, one 30 by 100 and the other 50 by 100 feet, both being built of corrugated iron, and a log dwelling house.

The North American Transportation and Trading Company, which located here in 1895, also has fine buildings, the store being a sawn-log structure 22 by 70 feet. Three warehouses are owned by the company, one 24 by 70 feet, built of rough lumber, and the other two 30 by 72 feet each, constructed of corrugated iron. One of the latter is still without a roof, the carpenters having deserted the work in the latter part of September, 1897, to go to the Klondike. Their dwelling house, the best building used for the purpose on the Yukon, is a structure of sawn logs 30 by 40 feet and two stories in height, costing about $7,000.

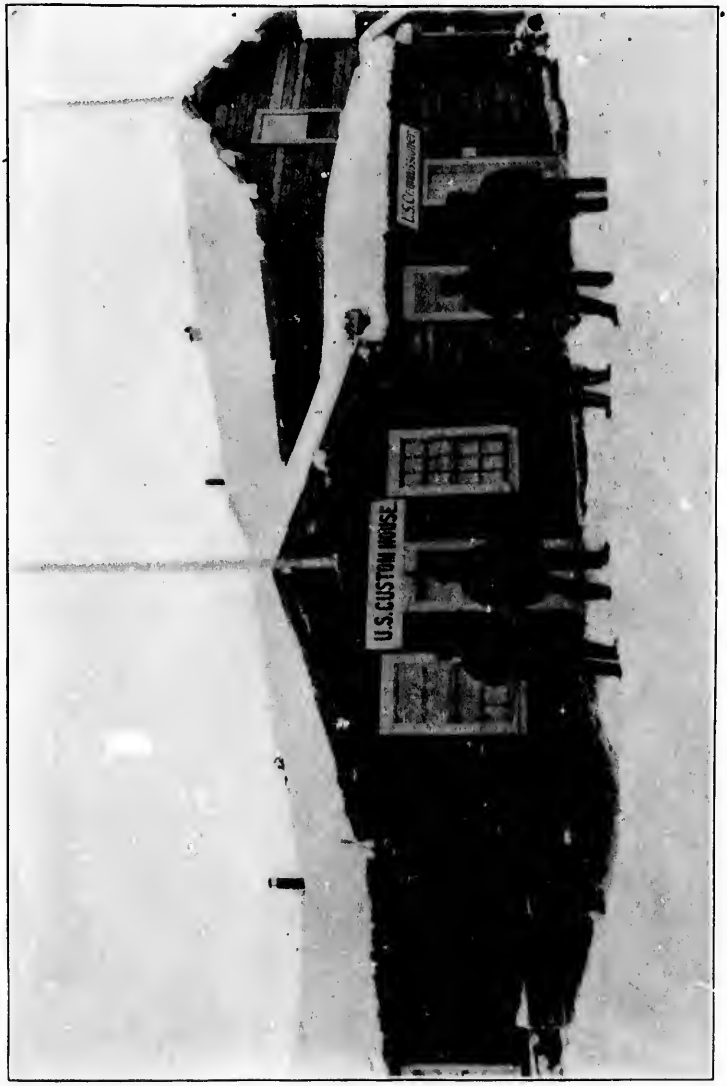
There is a log schoolhouse, 24 by 32 feet, which was built in 1896 by the citizens through private subscription, at a cost of $1,600. During the winter of 1895–96, before the construction of the schoolhouse, a teacher was employed by the citizens at a salary of $100 a month, the school being held in a rented building. Last winter school was conducted in the new building by the Government school-teacher, there being from twenty-five to thirty scholars in attendance, four of whom were white, six or eight half-breed, and the remainder Indian children. On account of the depopulation of the town, through the stampede to the Klondike, the teacher was withdrawn during the past summer, and the town is now without a public school, although there are some twenty children of school age here. A number of these are cared for by the Episcopal Mission, in charge of Rev. J. L. Prevost and his wife, assisted by Miss Elizabeth Dean, deaconess. This mission is doing good work among the native and half-breed children, and the influence of its missionaries is felt throughout the community. Religious services are held at the mission every Sunday morning, with a fair attendance.

Last spring Hon. John E. Crane, of Chicago, was appointed United States commissioner for the district of Alaska, and assigned to duty at Circle City. He arrived here in July, and qualified October 2, 1897, giving to the community its first taste of judicial authority.

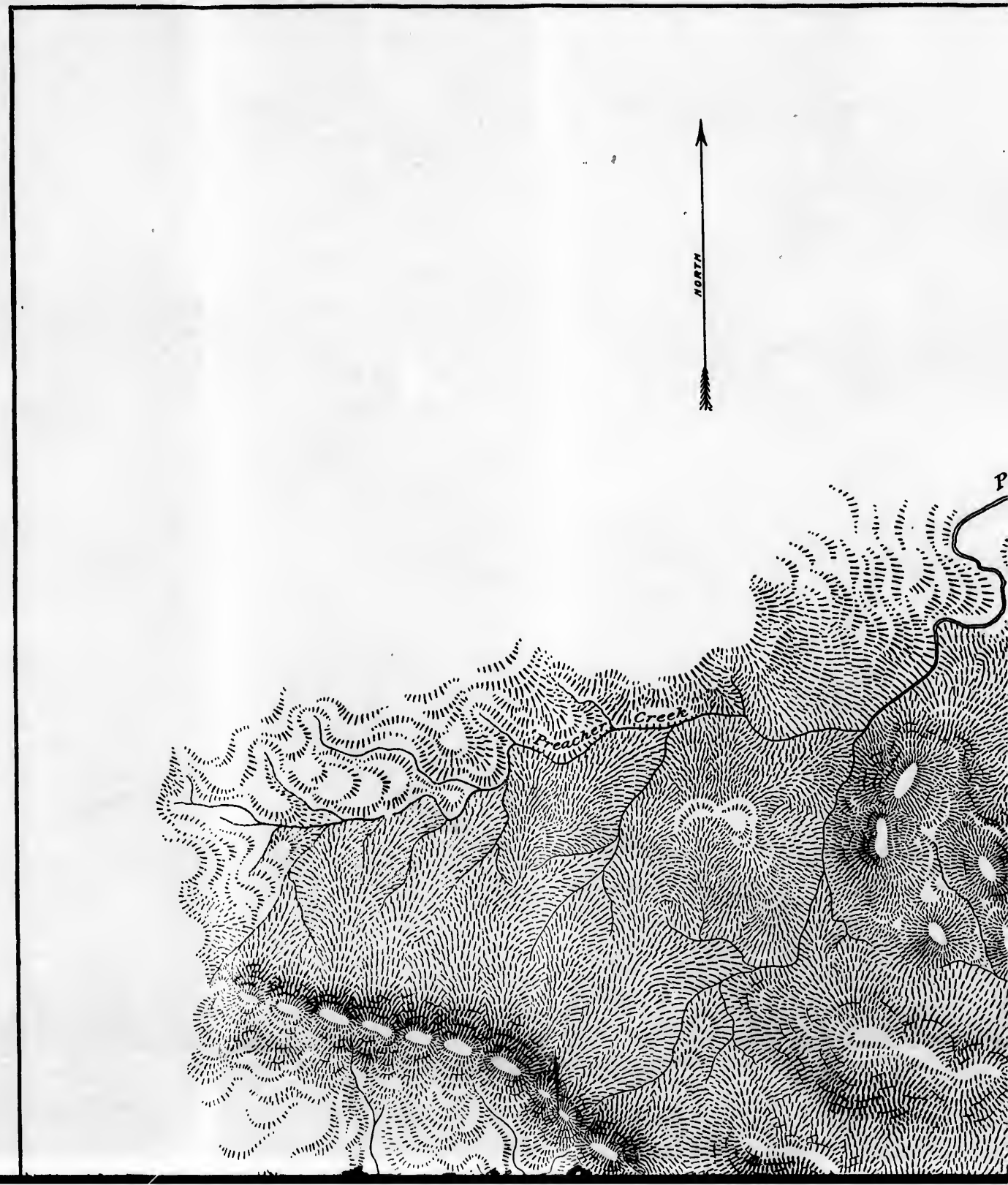
In addition to Commissioner Crane the Government is represented here by the following-named officials: Charles Smith, deputy collector of customs; Charles I. Roth, inspector of customs; Capt. George W. Dunn, deputy United States marshal; J. R. Dodson, deputy collector of internal revenue, and L. N. McQuesten, postmaster. The Government buildings at Circle City are shown in the illustration.

The town site of Circle City was staked on June 20, 1894, by Robert J. English and Barney Hill, the former from Forty Mile and the latter from the temporary trading post of McQuesten & Co. These gentlemen had visited the Birch Creek mines, and being impressed with their richness and extent decided to locate here, considering it the most eligible point from which to distribute supplies to the mines. The town was given the name it now bears under the false impression that it was on the Arctic Circle. As subsequently learned, it is about forty miles south of the circle.

McQuesten & Co. had established a trading post the previous summer on the Yukon, about twelve miles above the present site of the town, and removed to this point in the fall of 1894. Mr. L. N. McQuesten, the senior member of the firm, and in charge of the business here, had so much faith in the new gold fields that he gave credit to the miners to the extent of about $100,000 during the winter of 1894–95. Most of the stock was at Forty Mile, and the miners were obliged to go to that place for their outfits or have them freighted down at a cost of $12 a ton. The mines turned out so well that the firm collected practically all of their bills during the fall of 1895. Mr. McQuesten, who is

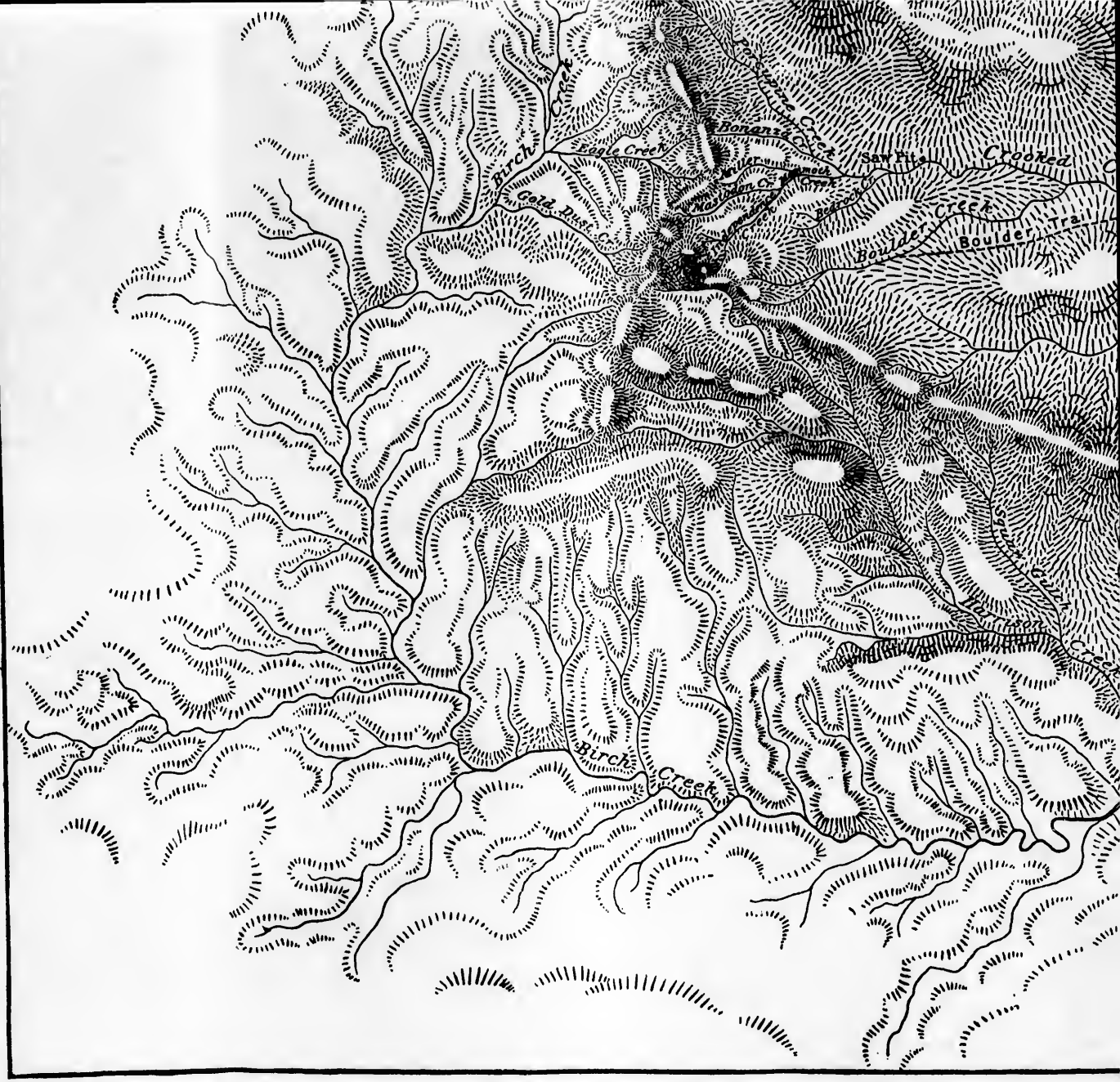


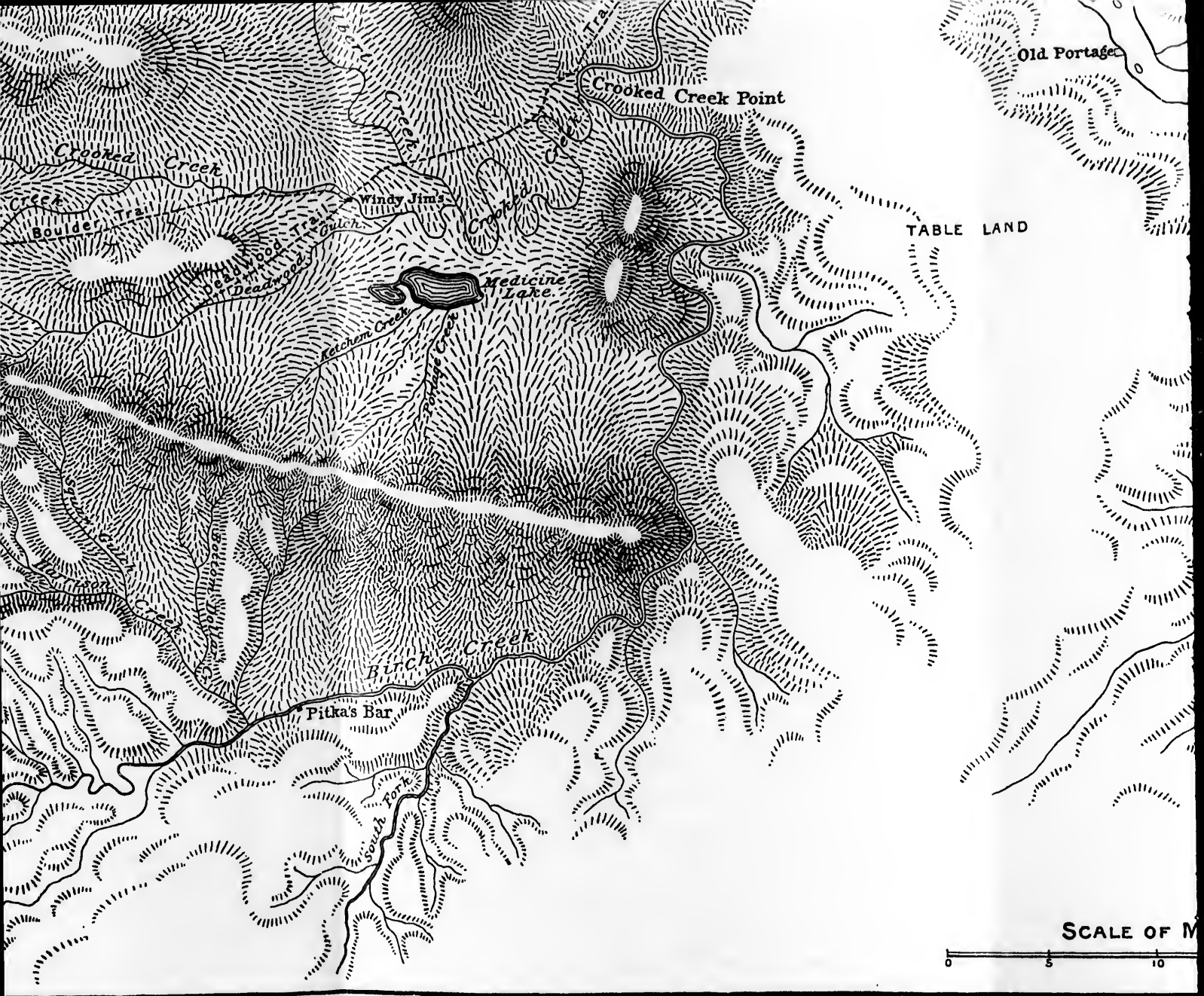
GOVERNMENT BUILDINGS, CIRCLE CITY, ALASKA.


NORTH
Preacher Creek

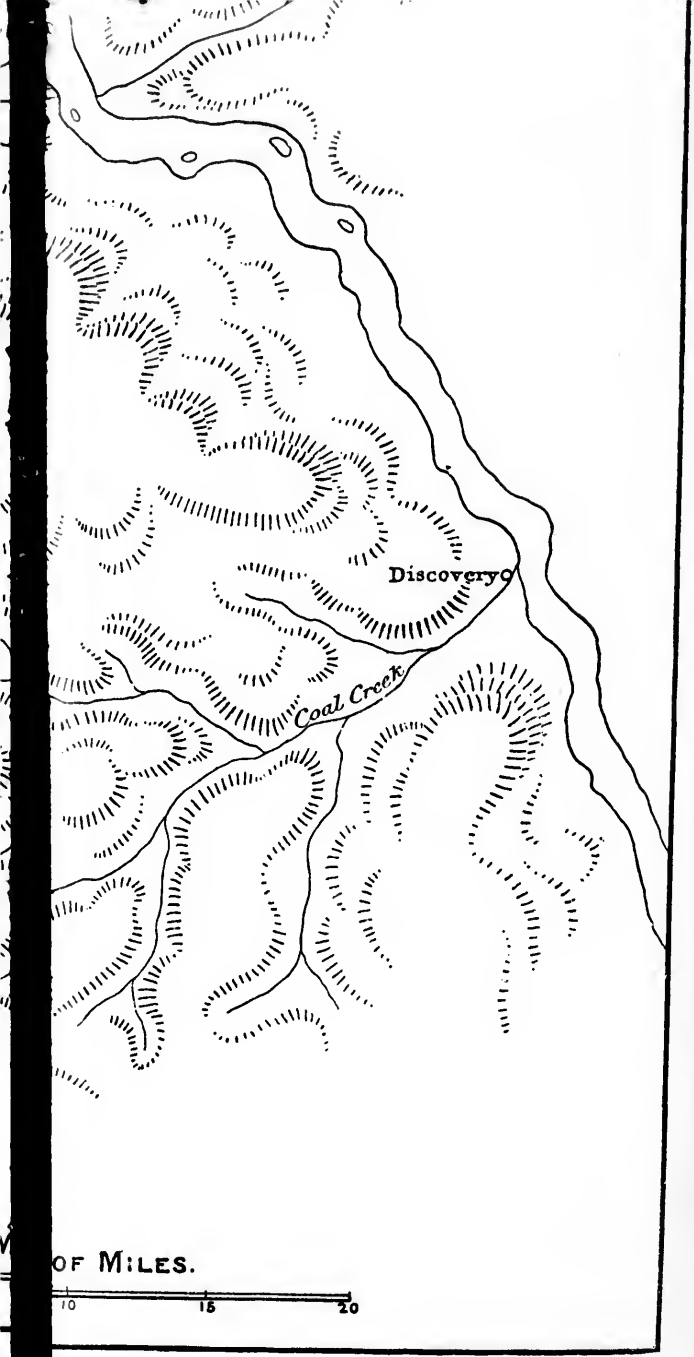

FLATS
Preacher Creek
Birch Creek
FLATS
YUKON
RIVER
Sugar Loaf Mt.
8 MILE
Circle City
12 MILE
Crazy Mts.

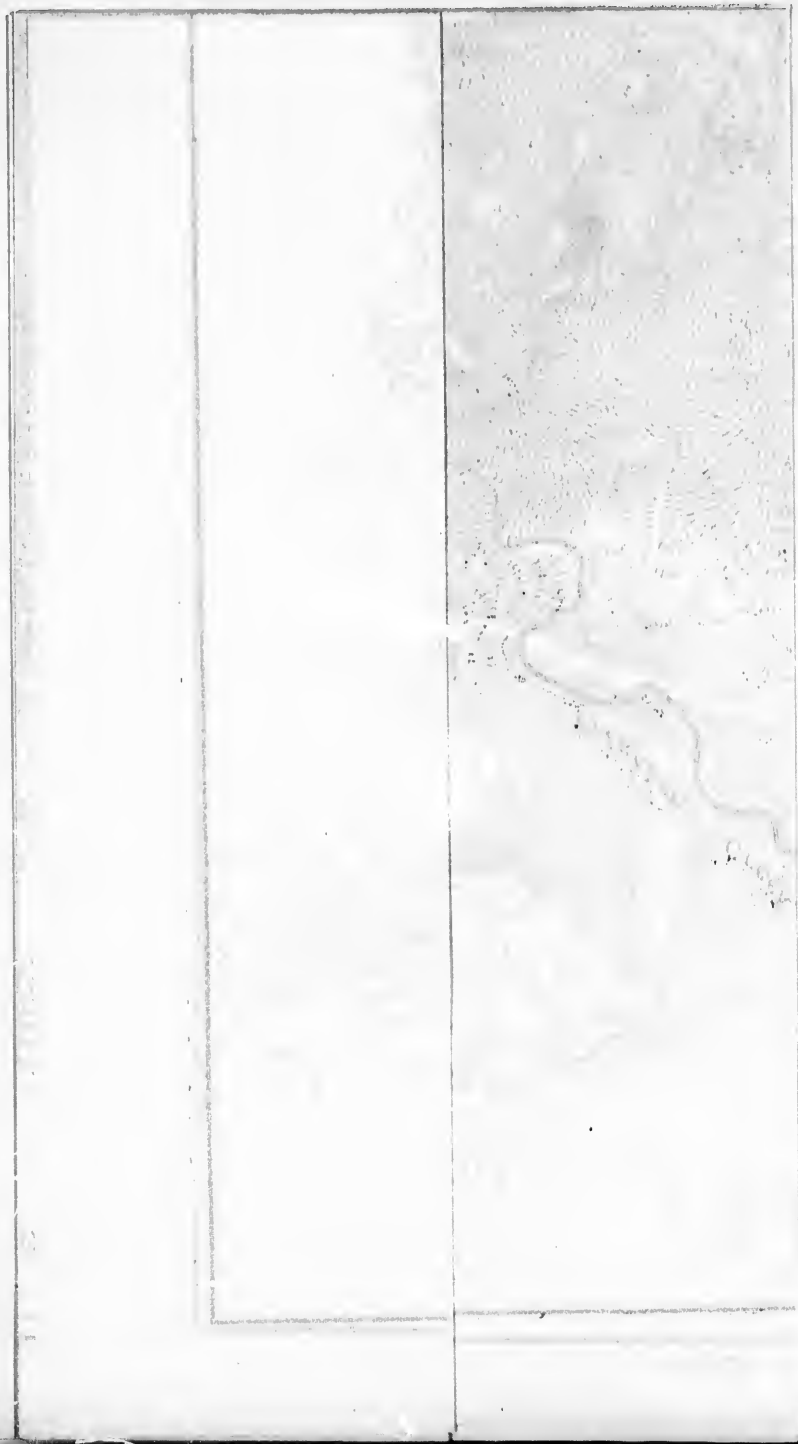
YUKON FLATS
RIVER


Birch Creek
Eagle Creek
Bonanza Creek
Saw Pit
Crooked
Boulder Creek
Boulder
Birch Creek
Birch Creek



BIRCH CREEK DISTRICT, ALASKA.


Discovery
Coal Creek
OF MILES.
10
15
20



known throughout the Yukon Valley as "Jack" McQuesten, has been in business on the Yukon since 1873, in which year he came over the mountains from the Mackenzie and down the Porcupine. He traded with the Indians on the lower river for some years and then located at old Fort Reliance, six miles below the Klondike, where he remained until 1885. In 1886 he established a trading post on Stewart River, and spent the winter of 1886–87 in California, receiving while there news of the discovery of gold on Forty Mile Creek the previous summer. He returned in the summer of 1887 and established a trading post at Forty Mile, where he has continued in business until the present time. In 1896 the Alaska Commercial Company assumed control of the establishments at Forty Mile and here, Mr. McQuesten retaining an interest in the business. Mr. McQuesten is spending the present winter in California. He is a native of Maine, and is a typical frontiersman, standing over six feet in his moccasins, and being built in proportion. He is beloved by the miners, and is called by them the "Father of the Yukon." They bear universal testimony to his large-hearted generosity and attribute the development of the Yukon gold fields to his farsightedness and his unselfishness in giving them credit, thus enabling them to tide over bad seasons.

Birch Creek is abo... 350 miles long. The North Fork has its source in the Ratzel Mountains, 100 miles west of Circle City, flowing to the southward some fifty miles, and then to the eastward eighty or ninety miles, completing as Birch Creek proper an almost perfect semicircle at a point eight miles west of Circle City, and thence flowing parallel with the Yukon for 150 miles, emptying into the latter stream thirty miles below Fort Yukon. The South Fork, flowing in a northeasterly direction, unites with the North Fork sixty miles southwest of Circle City.

The first discovery of gold by white men in the Birch Creek district was made on August 10, 1893, at a point on Birch Creek a few miles west of the mouth of South Fork, now known as Pitka's Bar. The discovery was made by Henry Lewis, John McLeod, and Gus Williams, who had come down from Forty Mile during the preceding month with a view of prospecting in this locality, having learned that an Indian named Pitka had taken out some gold at the point above named during the summer of 1892. Twenty-five or thirty men from Forty Mile followed Lewis and his companions during the fall of 1893. During the spring of 1894 $10 a day to the man was made on Pitka's Bar. On June 15 of the same year a discovery was made on Mastodon Creek by Pat. J. Kinnaley and John Gregor, and on the 22d of that month good ground was found on Independence Creek by some of the men who had come down from Forty Mile the previous fall. The discoveries on Mastodon and Independence were creek diggings and the claims there have proved very productive.

Mastodon is the best creek in the district, having yielded more than one-half of the total product of the Birch Creek mines, and will soon

become known to the world as one of the richest placer gulches ever discovered. There are fifty-nine claims on the creek, but many of them are lying idle on account of the difficulty in getting miners. The output last summer was $260,000, eighteen claims being worked, with 260 men employed. The period of active mining operations was about sixty days. The claims could have been worked longer, but as soon as the miners accumulated a "grub stake" they left for the Klondike and elsewhere to prospect. There is an abundance of water on the creek, it never getting below a sluice head. Mastodon has been known locally for two or three years to be the best creek in Alaska, but until the past fall it had not been thoroughly enough prospected to warrant a positive statement as to its richness and extent. Eight holes have recently been sunk to bed rock on Discovery and No. 1 above, which show an average of ten feet of gravel that will run 25 cents to the pan, as high as two ounces having been taken out of a single pan. The pay streak is 1,100 feet wide, so far as known, and may be much wider. These two claims will run from $1,700 to $4,000 to the box length. Active developments on the claims above and below Discovery indicate that for two miles the pay streak runs from 800 to 1,000 feet wide and that the ground for this entire distance will average $1,700 to the box length. The prediction is here made, based on authentic information, that the ten miles of ground on Mastodon and Mammoth (which are one creek except in designation) already prospected will eventually produce as much gold as any successive ten miles on Bonanza, while the ten claims on Mastodon, from 4 below to 5 above Discovery, inclusive, will without doubt prove as productive as any ten claims on Eldorado, taken in their numerical order. Furthermore, on account of the even distribution of the gold in the Birch Creek district, the output here, extending over a longer period of time and employing larger numbers of men, will be of incalculably greater economic benefit to the community than the more phenomenal production of the creeks in the Klondike district.

Independence Creek has twenty-nine claims, which yield about an ounce per day to the man. The creek was not worked extensively during the past season, as miners could not be secured, only two or three claims being operated, with seven men employed, and producing about $7,000.

Mammoth Creek, which is formed by the junction of Mastodon and Independence, and empties into Crooked Creek, is about five miles long. This creek, which was discovered in 1894, has been opened in three different places, and paid $8 to the man, shoveling in. It was abandoned and relocated for hydraulic operations. Capt. John J. Healey owns two claims on the creek, Henry Lewis four, and Kinnaley & Gregor seven, all of twenty acres each. There is an ample supply of water, with good grade and dump, and when hydraulic machinery can be procured the creek will be a great producer.

Deadwood Gulch, located in 1894, has forty-seven claims, eight of

which were worked during the past summer, employing 110 men and yielding about $100,000. The pay streak is about thirty feet wide, and although somewhat spotted, the ground is very rich.

Miller Creek has sixty-four claims, nine of which were worked last summer, producing $30,000. Forty men were employed for about sixty days to secure this output.

Eagle Creek, discovered in 1895, has forty-six claims, only four of which were worked during the past summer on account of the scarcity of miners, producing $75,000, with seventy-five men employed. All of the claims on this creek can be worked profitably at the prevailing rate of wages. Owing to the difficulty of reaching Eagle Creek with supplies, $12 a day is paid for labor there, $10 being the rate of wages on all of the other creeks in the district.

Gold Dust Creek has sixty claims, all of which were abandoned during the Klondike stampede. These were all subject to relocation during the past fall, and have been restaked.

Harrison Creek is thirty miles long, and contains about 100 locations, the claims being 1,320 feet long. It has been relocated, and would have been worked during the past season if it had not been for the stampede. There is probably not a claim on the creek that would not yield $8 to the shovel under present conditions, and as there is an ample supply of water and good grade it will eventually produce many millions under hydraulic processes.

Porcupine Creek is about the same length as Harrison, and in 1896 had quite a number of claims 1,320 feet in length, having been located for hydraulic purposes. It was abandoned, and is subject to relocation.

Lower Coal Creek, on which a discovery was made in 1895, enters the Yukon from the west, fifty miles above Circle City, and is about thirty miles long. There were fifteen or twenty 1,320-foot claims on the creek in 1896, but they were abandoned, and are now subject to relocation. There is a fine vein of bituminous coal on this creek, three miles from the Yukon. The coal burns well, producing a fine ash, entirely free from clinkers, being far superior to the Puget Sound coal brought into the country by the transportation companies.

The claims on Mammoth, Harrison, Porcupine, and Lower Coal creeks are 1,320 feet in length, having been located under the United States law for hydraulic purposes, but all the other creeks in the district have claims of 500 feet, the limit prescribed by the local mining regulations. As the United States law now prevails in the district, it is probable that henceforth locations on newly discovered creeks will be for the full twenty acres allowed under the law.

There are a large number of creeks in the Birch Creek district which run from $6 to $10 per day to the man, and which, of course, can not be worked at the prevailing wages and under present processes, but which can be profitably operated by means of hydraulic appliances.

The gold produced by the Birch Creek mines is very coarse, many

nuggets running from a quarter of an ounce to four or five ounces having been secured. The quality of the gold is better than that of any other district on the Yukon, with the possible exception of Minook, running from $16 to $19 per ounce, Eagle Creek gold assaying up to the last-named figure. The average for the district is about $17.20 per ounce, while the average for the Klondike falls below $16, Eldorado gold, which contains much silver and base material, running but $15.25.

The ground in most of the gulches is quite shallow and easily worked; but on Mastodon, Independence, and one or two other creeks there are also good winter diggings, and drifting is carried on there actively during the cold weather.

Preacher Creek, which enters Birch Creek about sixty miles from Circle City, is 150 miles in length and has been prospected but little. Mr. Wilson, in his Guide to the Yukon Gold Fields, makes the following interesting statement relative to this creek: "The creek was named after a preacher who made an exploration trip of some length in search of fossils. It is reported that he found high clay banks some seventy miles from its mouth. These banks were about 300 feet high and overlaid a layer of driftwood some 200 feet down. Much of this driftwood was well preserved and of much larger dimensions than any growth in the country at present, some of the trees being fully four feet in diameter. The creek is constantly undermining its banks, thus bringing down great slides of clay and wood which completely fill the creek at times. This goes to prove beyond a doubt that the great Yukon Flats were at one time a vast lake, much larger than any fresh-water lake existing to-day."

The mines are from forty-five to eighty miles from Circle City, and the trail, which crosses Birch Creek about eight miles from town, thence following that stream and Crooked Creek to the mines, is almost impassable in the summer time. The description of the Bonanza trail, given in the section on the Klondike, applies equally well to the Birch Creek trail, with the addition of the reluctant admission that the Birch Creek mosquitoes are somewhat larger and incalculably more numerous than the Klondike variety—a fact ascertained by taking the consensus of opinion of a number of unfortunates who have been tortured by both. The rate for summer packing to Mastodon (sixty-five miles) is 40 cents per pound, the winter rate being 15 cents. Dog teams make the round trip in five days, the sleds being loaded with 200 pounds to the dog. The winter trail is generally open by the 15th of October, and sledding lasts until about the 10th of May. Previous to the Klondike stampede thirty or thirty-five horses were used for packing to the mines, but they were withdrawn for freighting between here and Dawson and have not since been in use on the Birch Creek trail.

At the time of the Klondike strike there was a population of about 1,000 in Circle City and the Birch Creek district and the town was in an exceedingly prosperous condition. The mines had produced nearly

$1,500,000 during the season of 1896 and as a consequence money was plentiful. All lines of business were doing well and twelve saloons were in full blast. When the news of the great strike reached Circle City nearly everybody caught the Klondike fever. Saloon keepers closed their saloons, gamblers folded up their lay-outs, carpenters dropped their tools in the midst of their work, and all rushed off to the new diggings, many neglecting even to lock their cabin doors. During the winter some eight or nine hundred men took their departure for Dawson and by late spring there were not more than fifty people, mostly women and children, left in the town. A few went up on the last steamer, but the vast majority were obliged to make the journey on the ice. As heretofore stated, there were about thirty-five horses in the district, employed in packing to the mines, and these were pressed into service, sleds being used to carry supplies. Dog teams were secured when obtainable, the price of dogs ranging from $100 to $200 apiece, while some drew their sleds themselves. The distance of 300 miles was usually made in from 20 to 30 days. The rate for freighting from Circle City to Dawson during the winter was $1 per pound.

A number of old Birch Creek miners have struck it rich on the Klondike, but many of the unsuccessful ones have returned to Circle City, and more will follow during the winter, their disappointment tempered by an abiding faith in the future of the Birch Creek district. Careful inquiry has elicited a fact which is too significant to be omitted in this connection. Of the first half million dollars in gold dust put in circulation in the Klondike district, fully 80 per cent was carried there by miners from Forty Mile and Circle City, by far the larger proportion having been taken from this place by successful Birch Creek miners for investment in Klondike properties. A conservative estimate of the total output of the Birch Creek district places it at $3,500,000.

As the Government had never considered this section of Alaska of sufficient importance, up to the past summer, to give it a judicial officer to administer the laws, the citizens were forced to take the matter into their own hands. When an infraction of the law was committed a miners' meeting was called to try the offender. A chairman and jury were selected by ballot, the defendant being allowed to choose an attorney and to challenge for cause, and the proceedings were conducted as nearly in conformity with the rules of law and evidence as the somewhat limited court experience of the participants would permit. This temporary organization was in no sense a vigilance committee, no occasion ever having arisen here for the formation of such a body. There is no town of its size in America that has a better record than Circle City as a law-abiding, justice-loving community. During the three years and a half of its existence there have been but two homicides committed, one of which was clearly in self-defense, and there have been but two trials for theft. The punishment prescribed for murder was hanging, and the penalty for theft was immediate departure from

the country, never to return on pain of death, the miners themselves furnishing the means of transportation and subsistence to the coast. There have been one or two trials for infraction of the moral law, which resulted in each case in exact justice being meted out. The citation of one case of this kind will furnish a striking illustration of the effectiveness and celerity with which a Circle City miners' meeting could repair a wrong done to a helpless woman. The plaintiff charged the defendant with seduction under promise of marriage. The case was tried with due formality, after the exclusion from the room, on the motion of a considerate miner, of "all children under age." At 5 o'clock in the evening of the second day of the trial the jury brought in the following verdict:

We, the undersigned jurors, in the case of Alice Doe, plaintiff, and Richard Roe, defendant, find the defendant guilty as charged, and order that said defendant marry Alice Doe, or, in failure to do this, he be fined $1,500 and imprisoned one year in a prison in Circle City, and, in case of failure to pay the said fine, the term of imprisonment be extended to two years; and it is further ordered that the defendant be immediately placed under arrest and placed in charge of the bailiff until the conditions of the verdict are complied with.

The meeting then adjourned for two hours. On the reassembling of the meeting at 7.30 the chairman stated that the marriage contract had been witnessed, and that the jury and all officers connected with the case were honorably discharged, and after the adoption of a motion tendering a vote of thanks to the ladies of Circle City for the support and assistance given the plaintiff during the trial, the meeting adjourned. When it is considered that at the time of this meeting there was no jail in Circle City, and that if the defendant had chosen the alternative of imprisonment the expense of providing a jail and maintaining the prisoner for two years would have fallen on the miners themselves, not only the Draconian justice of their action, but their self-sacrificing devotion to principle becomes apparent.

The following succinct entry from the records of Circle City indicates how easy it was for a miners' meeting to settle a dispute as to the ownership of property:

Meeting, September 20, 1896. Stella Wingood *v.* Mr. Holden.
Miss Stella Wingood states that Mr. Holden has her clothing and refuses to give it up. Chair appoints Mr. Lester to bring Mr. Holden before the meeting. Mr. Holden sent word that he would not come. Moved and seconded that a committee of three be appointed to demand Miss W.'s clothing from Mr. Holden. Carried. Also that lady should accompany the committee and demand her clothing. Carried. Committee reports that the clothing has been returned. Adjourned.

During the past summer a United States commissioner took up his residence in Circle City, qualifying in October, and the miners' meeting, which all must admit had its good points, has given way to formal judicial proceedings.

The absence, prior to the past summer, of any functionary qualified

to solemnize a marriage contract caused some inconvenience, but the following marriage agreement, duly signed and witnessed, satisfied all concerned:

This agreement of marriage, made and entered into this 3d day of August, 1896, by and between Richard Roe, of Circle City, Alaska, and Mamie Doe, of the same place, witnesseth: That whereas the parties hereto are desirous of entering into the marriage relation and there is no officer or minister or other person competent or authorized to solemnize a marriage in Circle City, Alaska, or in any place accessible thereto: Now, therefore, in consideration of the mutual promises of marriage heretofore made by and between us and each of us, we do hereby mutually and severally agree to and do enter into the marriage state, I, the said Richard Roe, hereby agreeing to take her, the said Mamie Doe, as my lawfully wedded wife, and I, the said Mamie Doe, hereby agreeing to take him, the said Richard Roe, as my lawfully wedded husband.

The most important institution in Circle City is the Miners' Association. This is a beneficial organization of the miners of the Birch Creek district, whose object is the relief of members in sickness and distress. The present membership is 225, but many of the members are absent, on the Klondike and elsewhere. The initiation fee is one ounce of gold ($17), and the dues are $1 per month, any extraordinary expenditure being covered by a subscription. This organization takes the lead in all works of charity. During the latter part of October, 1897, a large number of men coming from Dawson in small boats were caught in the ice at various points above here, and in several cases had their feet badly frozen. When such a case was reported the Miners' Association would immediately organize a relief party, hire a dog team at $50 a day, and have the unfortunate man brought into town, the expense being paid through a subscription. The association has a library of about 1,000 volumes which would serve as a model, in the class of books it contains, for any community in the country. All the standard novelists and poets are represented, while the complete works of Huxley, Darwin, Tyndall, Carlyle, Prescott, Macaulay, Hume, Motley, Ruskin, Irving, and many others have place on the shelves. Some of the standard illustrated papers are kept on file, and chess and checker boards are at the disposal of the members. A fine morocco-bound quarto Bible has the place of honor on the reading table. The seeker for scientific facts and miscellaneous information has access to the Encyclopedia Britannica, while the letter writer in quest of superlatives to describe to his friends at home his unique surroundings has at hand the latest edition of the International Dictionary. The library is largely drawn on by the residents of the town, who are permitted to withdraw books on the payment of a small fee. Calling recently at a cabin occupied by three miners, the writer found one of them reading Bourrienne's Napoleon, another Kinglake's Invasion of the Crimea, while the third was devouring Trilby, dropping an emphatic remark now and then which indicated that the passages in French met with his disapprobation.

The association is accomplishing much good in the community through the educational influence of its library and the model conduct of its members. As before stated, it is purely a beneficial organization and has nothing whatever to do with miners' meetings, so called, except as its members participate therein as individuals.

About the middle of September, 1897, the situation in regard to the food supply for the winter became critical, through the announcement of Capt. J. E. Hansen, assistant superintendent of the Alaska Commercial Company, while en route from Fort Yukon to Dawson, that no more freight would be left here during the season, and the statement of the local agent of the North American Transportation and Trading Company, that while the orders of their regular customers would be filled no surplus provisions could be landed by their boats. The companies took the position, in view of the serious shortage of provisions at Dawson, that it was their duty to the people there to carry as much freight as possible to that place, stating that the people of Circle City, being only eighty-five miles from Fort Yukon, where there were ample supplies, could freight their outfits from that point. The miners of the Birch Creek district felt that this proposed action of the companies would work a great hardship to them, as it would make it impossible to begin work in the mines until very late in the season, on account of the loss of time in freighting supplies, to say nothing of the additional expense of 20 or 25 cents per pound involved. They were almost entirely destitute of provisions, the companies selling them only enough to last from day to day. This was the condition of affairs on September 19, when a miners' meeting was held to take action in the matter, some forty men being in attendance. At this meeting a committee was appointed to take a census of the people in town and in the mines, ascertain the amount of supplies they would require for the winter, and wait upon the captain of the next steamer on its arrival and require him to land enough supplies to fill their orders. On the 20th forty-three men signed an agreement "to be at the bank of the river on the arrival of the first steamer, to receive orders from the committee appointed to wait upon the captain of said steamer." The census of the people of the district showed that there were 188 men without supplies, and a list was made up by the committee of the amount of provisions that would be required to sustain them during the winter, many of the 188 persons in the meantime filing their orders at the stores.

The steamer *Weare*, of the North American Transportation and Trading Company, arrived on the evening of the 21st. The committee placed an armed guard on the steamer to prevent her departure during the night, and the next morning, with the assistance of their supporters, took from the boat, against the protest of the captain, twenty tons of food supplies. The *Bella*, belonging to the Alaska Commercial Company, arrived on the 25th, and the committee, assisted by the men

who had pledged their support, took thirty-seven tons of provisions from her. A prominent miner who was present during the unloading of the goods from the *Bella* has furnished the following statement: "A committee of five men was appointed to wait on Captain Dixon of the *Bella* and inform him of the situation here with reference to the scarcity of provisions. We had a list of those supplies which we considered absolutely necessary to carry us through the winter, and we submitted that list to him. I believe the list called for sufficient provisions for 188 men, the number at that time known to be in the district without supplies. The captain said that his orders were to leave nothing here, and that he would leave nothing—that if we took anything off we would do it against his protest. We then stationed men at various points—one on the gang plank, one in the store, and one in the warehouse—to see that the goods were properly delivered to the warehouse, and our men went aboard the boat and took off thirty-seven tons. No arms were used and no force was applied. We simply insisted on the company leaving enough provisions to fill our orders. We did not fill our list completely; but we got plenty of flour, bacon, butter, and evaporated potatoes." Capt. P. H. Ray, U. S. A., who was a passenger on the *Bella*, protested against the action of the miners, informing them that it was unlawful. Their spokesman replied that there was no law here; that the Government had failed to place officials here to protect them in their rights, and that they were forced to take the law into their own hands in self-protection. In both cases of the forcible removal of provisions from the steamers the miners requested the agents of the companies to check off the goods as they were placed in the warehouses, and the agents did this, the goods being subsequently sold to the miners, in accordance with the orders which they had placed at the stores, at the companies' prices. The effect of the movement was to compel the companies to supply provisions necessary to subsist the miners during the winter, and there was no confiscation of goods, as has been stated at Dawson. An armed guard, furnished by the miners themselves, patrolled the *Bella*, which lay here all night, to protect her cargo from possible theft by lawless characters.

Early in December a prominent mine owner of the Birch Creek district, who was visiting Circle City, was requested to secure for use in this chapter a copy of the local mining laws of the Mastodon district, and he promised to do so. During holiday week the following letter was received from him:

I sent to the recorder of Mastodon, as you requested, for a copy of its laws, and inclose herewith his reply, thinking it may amuse you, and believing you have too much sense to be offended. The writer is an honest, sensible, hard-working man, and highly esteemed by all who know him, and his note is simply an index of the feeling of distrust with which old-timers, or at least the greater part of them, view Government officials, and the innovations which are taking place in both the mining and civil laws. The few Government officials that Uncle

Sam has sent us heretofore have, it is believed, done little good for the country or the Government, while it is strongly suspected that they have abused the powers of their office by levying blackmail on the commercial companies, saloon keepers, and others. I do not allude to the present officials; they have yet to prove themselves.

It is a pretty general sentiment that the Oregon Code of civil laws and the United States mining law are inadequate to our needs, as our isolated position, short seasons, and severe climate differ from those of any other portion of the United States. Our old system of government, by means of miners' meetings, was on the whole very efficient, and crime was almost unknown. Whether the present system is, or is likely to be, a success, you have an opportunity to judge for yourself.

I inclose herewith a copy of the Miller Creek mining laws.

The following are the laws of Miller Creek:

The recording fee for each location and transfer of claims shall be $2.50.

Three hundred dollars' worth of work must be done on each claim and in each year. If said amount of work has not been done by the 1st of July in each year, it must be done during that month, or declared vacant. Three inspectors shall be elected to determine whether the required amount of work has been done on each claim, and their decision shall be final.

A fraction of a claim shall do assessment work in proportion to its length.

No claim shall for any cause be laid over for a season.

No claim owner shall ground-sluice stumps or sod onto the claim below him.

Each claim holder is entitled to dump tailings for a space of three box lengths on the claim below him.

The unwritten laws and customs of the Birch Creek district, as near as can be ascertained, are as follows:

A claim consists of 500 feet lengthwise of a gulch and from rim to rim in width.

Each discoverer of a new gulch shall be entitled to an additional 500 feet.

Claims shall be numbered above and below Discovery.

A claim owner is entitled to all of the timber on his claim, but all timber above the rim on the side hill is free for all.

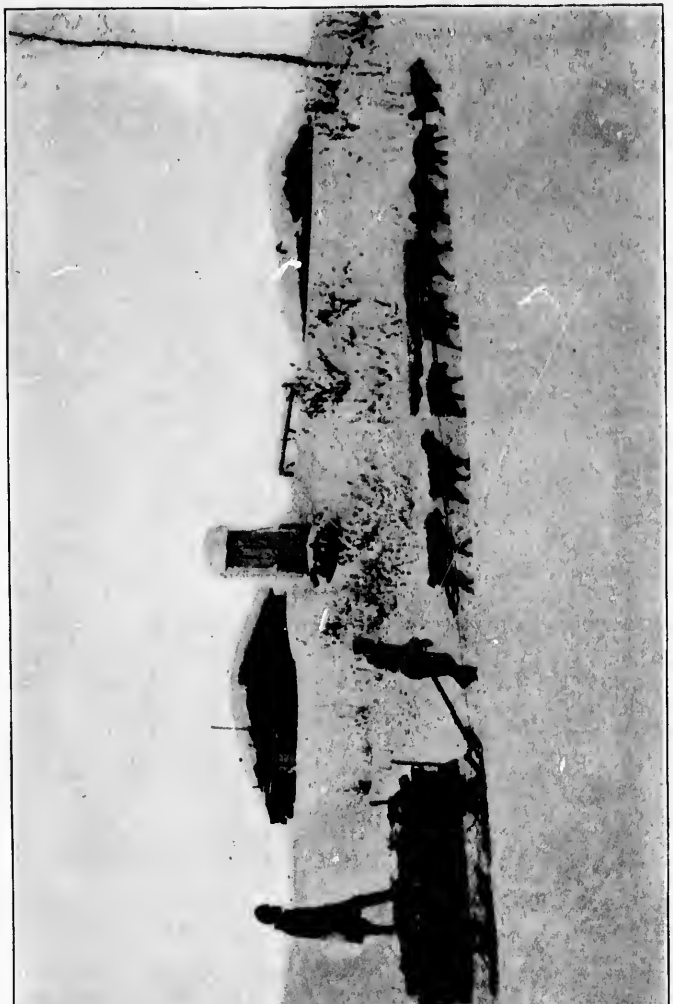
A man is entitled to locate one claim for himself, and for no one else, on each gulch, and having used his right once on a gulch can not do so again.

Previously to recording, provided no vested interests are jeopardized, a locator may cut his name off his stakes and relocate on the same gulch.

An alien is entitled to the same privileges as a citizen in locating and working mining ground.

Nothing in the local mining laws shall be construed to prevent a locator from buying claims.

The custom relative to the rights of aliens originated in the Forty Mile district, where, until recently, there was a local dispute as to the location of the boundary line, the Canadians and Americans agreeing, for mutual protection, to the provision as given above. When the Birch Creek mines were discovered many Canadians came down in the



DOG TEAM, CIRCLE CITY, ALASKA.

stampede from Forty Mile, and their American friends decided in public meeting to perpetuate the custom here.

Wages of laborers in Circle City are $6 per day, but there is very little employment of any kind to be had, and there are probably 100 idle men in the town who are anxious to work. Clerks in the stores receive from $75 to $125 per month and board, the latter salary being paid to bookkeepers.

Prices in Circle City are substantially the same as in Dawson and Forty Mile. Speculative prices are not as high for many articles on account of proximity to the source of supplies, the rate for freighting between Fort Yukon and this place being but 25 cents per pound, while it is $2 per pound from Fort Yukon to Dawson. In some special cases as great prices have been paid here as on the Klondike. Good dogs command from $150 to $400 apiece, and in one or two instances $500 apiece has been offered for very fine dogs, $4,000 having been offered and refused for the eight-dog team a view of which appears. Whisky is quoted at $50 a gallon, but can not be had even at that price. Some has recently sold for $20 per bottle. Unrectified high wines, for which there is an active demand, command $30 per gallon. Candles are quoted at $7.50 per box (120) at the stores, but they are scarce, as high as $30 per box having been paid for them outside the stores. Flour costs $37 per 100 pounds, the Circle City price with Fort Yukon freight added. Coal oil is quoted at $1 per gallon at the stores, but commands $7 per gallon in the hands of speculators. Firewood is $16 per cord, laid down at the door, with $5 added for cutting into stove lengths. The dog team shown in the illustration can haul two loads of a cord each per day. While many luxuries are not to be had at any price, there is an ample visible supply of the staples to carry the community through till midsummer; so, although there must of necessity be some privation, there will be no actual starvation, as was freely predicted three months ago by many who now admit they were mistaken.

DOG TEAM, CIRCLE CITY, ALASKA.

During holiday week a lunch room was opened in Circle City, with bill of fare as follows: Coffee and sandwich, 50 cents; coffee and pie, 50 cents; coffee and doughnuts, 50 cents; hot cakes and maple sirup, $1. January 10 the proprietor began serving meals; price, $1.25.

The Miners' Association of Circle City having expressed a desire to state their grievances against the commercial companies doing business on the Yukon, five questions were prepared, covering the points on which the most general complaint is heard on all hands, and submitted to the association for consideration. These questions and the replies of the Miners' Association thereto are as follows:

1. What reasons have you for asserting that there exists an unlawful combination in the nature of a trust between the companies doing business here?

The facts speak for themselves. They have raised the prices 50 per cent over last year's quotations. They themselves confess to a rise of 20 per cent. The rise is uniform as between the two companies, except when

either is out of an article, and then the other charges whatever price it may see fit. Besides, we have the assurance of Mr. Ely A. Gage, brother-in-law of the president of the North American Transportation and Trading Company, that Mr. Sloss and Mr. Weare had an understanding in Washington as to the policy of their respective companies, so that neither would hurt the other.

2. What proof have you to offer that the companies take advantage of the scarcity of an article to raise the price?

The most prominent freighter here last year stated that he delivered over twenty tons of freight to the different gulches with the advance of 15 cents per pound added on the ground that the goods had to be freighted up from Fort Yukon, when everyone knew that less than 1,000 pounds had at that time been brought from Fort Yukon. It is notorious that it was the policy of the North American Transportation and Trading Company to winter their boat at Fort Yukon, when they might just as well have brought her to Circle City, this course being pursued in order that they might have an excuse to mulct the miners as above stated. Billiard tables, bar fixtures, furniture for houses of easy virtue, and all the paraphernalia that contribute to the consumption of alcoholic liquors, as well as large quantities of liquors are freighted up the river to the exclusion of necessary food supplies.

3. Is it true that the two companies, or either of them, have refused to sell goods for cash to certain persons for protesting against alleged abuses of power, favoring those who tacitly acquiesce in their action?

This matter is so open and notorious that the managers of the companies will not deny that they still maintain that they have the right to sell goods how and to whom they please.

4. Have the companies failed to keep their agreements with the miners? If so, in what respect?

Mr. James M. Wilson, the superintendent of the Alaska Commercial Company, and Mr. George Ellis, representing the North American Transportation and Trading Company, solemnly promised the miners in a public meeting in Circle City that, providing the credit business was discontinued, they would reduce the price of goods 33⅓ per cent to the miners. Neither company sells anything now except for cash, and, notwithstanding their promise to reduce prices 33⅓ per cent, they concede to a rise of 20 per cent, but which in reality is over 50 per cent.

5. Are the charges for merchandise extortionate? Give instances.

Siwash tobacco, that costs 8¾ cents per pound and sold last year for 50 cents, is now selling for $1. Rubber overshoes that sold last year for $2.50 this year sell for $6. Desiccated potatoes that sold last year for $14 per can have been sold this year for $28, or $1 per pound. Moccasins that cost 50 cents per pair and sold last year for $2.50 sell this year for $3.50 per pair. Roast beef that sold last year for 50 cents per can sells this year for 75 cents per can. Tea that costs 13 cents per pound in San Francisco and sold last year for $1 per pound sells this year for $1.50 per pound. Pitted plums that cost in the San Francisco market 75 cents per box sell here for $7.50, and other fruits in proportion. Beans that cost 1 cent per pound on the outside sell for 15 cents per pound here. Butter that sells for 12½ cents in San Francisco sells here for 75 cents per pound. All kinds of drugs are sold at $1 per ounce, many of the articles sold being bought for 6 and 8 cents per pound on the outside. Calico that costs 4½ cents per yard in San Francisco sells for 25 and 35 cents per yard here, and as no charge is made of less than 25 cents the percentage of profit made on notions ranges into the thousands. We might go on indefinitely; but allowing the most extrava-

gant charges for transportation and handling goods, we maintain that the companies make a profit of 450 per cent on an average over and above expenses.

The steamer *Cleveland* sailed August 5 from Seattle for St. Michaels, chartered by the North American Transportation and Trading Company at $100 per day, including the pay of the crew. She made one round trip in less than forty days. She brought up 163 passengers at $200 each, including 150 pounds of baggage, allowing 150 pounds of extra baggage at 10 cents per pound, and unloaded 1,400 tons of merchandise at St. Michaels. This trip cost the North American Transportation and Trading Company $6,000, including the expenses of subsisting the crew. The receipts from the 163 passengers, including the charges for 20,000 pounds of extra baggage, amounted to $34,600. Deducting from this amount the $6,000 expenses to St. Michaels, the company had remaining $28,600, or $20.43 per ton, with which to transport the 1,400 tons of freight from St. Michaels to Circle City and Dawson. According to the very best evidence obtainable from river men, the actual cost of bringing freight from St. Michaels to Circle City never has exceeded $20 per ton; yet the companies, as a preliminary charge, place 8 cents per pound against transportation, when river men, of whom there are many here, are unanimous in agreeing that this is the best river in the world for freighting and that an independent fortune could be made in a single year by laying down San Francisco freight in Circle City at 2 cents per pound. Of course we know that the companies talk about the price they have to pay for wood ($4 per cord), but we also know that they average 500 per cent profit on the goods they exchange for this wood, reducing the actual cost to 80 cents per cord, not to mention the profitable trading business they do with the Indians along the river.

FORT YUKON AND THE EXODUS.

Fort Yukon is situated on the north bank of the Yukon, about 385 miles below Dawson and ten miles above the mouth of the Porcupine River, just within the Arctic Circle. In the early days the Hudson Bay Company had a trading post here, but the buildings were burned by the Indians many years ago and the post abandoned. During the past season both commercial companies, on account of the low water on the Yukon Flats, were obliged to land several hundred tons of freight at Fort Yukon, and they have erected buildings and established posts there.

Of the five or six hundred men who were forced to come down the river from Dawson about three hundred went to Fort Yukon, where some two hundred and fifty are spending the winter, the others having passed on to Minook and other points on the lower river. Great interest centers in Fort Yukon, as it is the point where the authorities in Dawson assured the thousand or more men whom they attempted to force down the river that there were six or seven hundred tons of food supplies, and where the commercial companies represented to the people of Circle City that they could obtain ample provisions for the winter. The fact is now apparent that while there were fully as many tons of freight at Fort Yukon as stated, more than one-half of it consisted of

whisky, high wines, cigars, tobacco, hardware, etc., and that if the movement to force the people out of Dawson and the effort to induce Circle City to depend upon that source of supply had proved wholly successful there would have been a much more serious shortage of provisions on this stretch of the river than now prevails at Dawson.

Among those who went down the river in October were a large number of men without means, who had received assurances in the speeches made at public meetings in Dawson that they would be provided with supplies at Fort Yukon. On their arrival at that place they found the local representatives of the commercial companies averse to ratifying the assurances made at Dawson, and about the 1st of November an armed mob of seventy men made a demonstration against the caches of the two companies, which are situated about three miles apart. Capt. P. H. Ray, U. S. A., who was at the cache of the Alaska Commercial Company, and who ordered the men to disperse, was held by force until he agreed to accede to their terms—the issuance of a seven months' outfit to every man at Fort Yukon without means. This demand was made for the reason that the companies were selling to each man but ten days' provisions at a time, thus practically holding the people in Fort Yukon in idleness and making it impossible for them to go out prospecting. A committee of seven men was appointed, to which was delegated the duty of passing upon the applications of destitutes for outfits. The methods pursued by the committee were so lax, in the opinion of Captain Ray, who, in the meantime, had organized a civilian force to support him, that he abrogated the powers of the committee, assumed full charge of affairs, and raised the American flag over both caches.

Up to the 1st of December 220 men had been outfitted at the two stores, 130 of these receiving their outfits as destitutes and giving their notes, payable in one year, the Government securing the companies for all bad debts. Captain Ray states that he took this course relative to the 130 men for the reason that, being destitute, they would have to be fed until the opening of navigation. He felt that it would do no good to hold them in Fort Yukon and feed them in idleness, and that by giving them supplies until June 1 they would be enabled to go out prospecting and develop the country. He wished also to avoid, as far as possible, the complications liable to arise among so large a number of idle men, many of whom were desperate over their failure to realize their expectations in the Klondike district. Captain Ray stated, on December 1, that there was a sufficient supply of food at Fort Yukon to support 600 people until June 1. Both caches were out of coffee, tea, and candles, but there was an abundance of flour, bacon, rice, etc., to last even beyond the date named. Cutting wood for the steamboats and prospecting are the only occupations the country affords, and a large number of men are cutting wood and quite a number have gone into the mountains to prospect.

The following is a typical seven-months' outfit furnished by the companies to destitutes:

250 pounds flour	$25.00
50 pounds bacon	20.00
60 pounds beans	7.20
30 pounds rice	6.00
3 pounds baking powder	3.00
16 pounds butter	12.00
2 cases vegetables (2 dozen 2-pound cans)	20.00
75 pounds evaporated fruits	22.50
1 pound soda	.50
1 gallon vinegar (or 1½ gallons pickles, at $2.50)	2.00
50 pounds sugar	12.50
50 pounds lard	9.00
2 pounds salt	.20
3 pounds coffee	1.50
1 dozen cans condensed milk	5.00
1 case roast beef (1 dozen 2-pound cans)	9.00
1 case corned beef (1 dozen 2-pound cans)	6.00
2 gallons sirup	5.00
10 candles	1.00
Total	167.40

A quotation of the special prices charged for a few sample articles by the North American Transportation and Trading Company at Fort Yukon during the past fall (when the other company was out of them) may be interesting, as indicative of commercial methods on the Yukon: Evaporated potatoes were sold for $28 per can, the price charged for them by the same company at Circle City being $14 per can; chewing tobacco, $2.50 per pound, the Circle City price being $1; tea, $2 per pound, the Circle City price being $1. The explanation given for the special charge for potatoes is that the agent, being a new man and unfamiliar with the company's schedule of fixed prices, inadvertently doubled the price. As to the other items, it is explained that the articles were purchased at the Circle City store at the retail prices there and that the advanced prices were charged to cover 25 cents per pound freight and to meet the requirement of the company that each station shall make a profit on its transactions, a rule which no doubt produces results gratifying to the stockholders, but which works great hardship to the helpless consumer. Some special prices prevail at the Fort Yukon station that are probably more properly attributable to the scarcity of the articles involved than to high freight rates; for instance, 8-inch flat mill files, costing 75 cents per dozen at wholesale and selling heretofore at 75 cents apiece, are sold this winter at $1.50 apiece, while silk handkerchiefs that cost $8 per dozen outside are sold to the Indians at from $5 to $8 apiece, according to color. A quart of coal oil, the largest quantity sold at one time, costs the consumer $2.

About the 1st of October, when the Klondike exiles began to arrive at Fort Yukon, there were only two or three log cabins in the place, and

many who were unsupplied with tents were forced to sleep in the open air. During the fall some thirty-five or forty comfortable cabins were erected, and nearly every one is well housed for the winter. Fortunately, the winter so far has been the mildest ever known here, the lowest temperature recorded being 44 degrees below zero and the mercury standing above the zero mark for weeks at a time; consequently, there has been much less suffering than was anticipated.

ALASKA, ITS MINERAL AND AGRICULTURAL RESOURCES, CLIMATIC CONDITIONS, ETC.

One of the best books written on Alaska, and the one which contains the most accurate information relative to the Yukon region, is Victor Wilson's Guide to the Yukon Gold Fields. This gifted author spent the summer of 1894 on the Yukon, and the results of his observations were published in January, 1895, almost simultaneously with his death, the direct outcome of the exposure and hardships of his journey through Alaska. While the book, on account of its hurried preparation, shows some defects, it contains a vast amount of information of remarkable accuracy, presented in a most charming style. Mr. Wilson's work has been used freely in the preparation of this report, not in the appropriation in any reprehensible degree of the material contained therein, but rather as a guide and inspiration in wandering through an almost pathless wilderness of isolated and elusive facts. The liberty is taken of making the following quotation from the introduction to the book:

The rush to the Yukon last spring saw many prospectors in the field with the most promising results. Many new creeks were discovered of great extent and richness, and all the old mines yielded better results than ever before. No creek in the entire basin which was prospected with any degree of precision failed to show at least a color. The estimated amount of gold taken out of the country last year has been placed as high as $1,000,000, and while this is highly improbable, the many who have returned with amounts varying from $5,000 to $35,000 prove beyond a doubt that the country is one of great richness. With these facts fresh before the public, at a time when the brawn and muscle of our great nation is almost at a standstill, it may reasonably be expected that many will turn their attention in this direction, and it is therefore the purpose of these pages to give such information as will be of benefit to those who undertake the trip.

The Chilkoot Pass is the only route used to any extent at present by the miners, and is the shortest portage from salt water to the navigable waters of the Yukon. This route leads over the Chilkoot Pass down the lake to Lewes River, thence d[illegible] the Yukon to the mines at different points on that river. The trip is one of difficulties, which will tax the endurance and nerve of the most hardy, and only such men can reasonably expect to succeed, for only with the most incessant toil, such as packing provisions over pathless mountains, towing a heavy boat against a five to an eight mile current over battered bowlders, digging in the bottomless frost, sleeping where night overtakes, fighting gnats and mosquitoes by the million, shooting seething rapids and canyons, and enduring for seven long months a relentless cold which never rises

above zero and frequently falls to 80 degrees below—any man physically endowed to overcome these obstacles who will go there for a few years can by strict attention to business make a good stake, with the possibilities of a fortune.

The climate is one unequaled for health, the summer months are delightful, game is plenty in season, and the winters, while cold, are healthy and help to recuperate the lost vitality from the incessant toil of the summer.

The next few years will see wagon roads and trails through the Coast Range, steamers on the lakes and upper river, and the whole of the vast upper country will be made accessible to the miner. Then hundreds will flock there, and ten years will see a population of 100,000 people in the Yukon Basin. Then its vast richness will become the by-word of the world, for it is a poor man's country—nature has stored her treasure in a safe of ice with a time lock which opens only in the long sunny days of summer. Hydraulic mining is made impossible owing to the lack of water, for only the glacial drip of the hills is accessible in the gulches which carry the most gold. This will make its period of productiveness much greater, while capital will find lucrative investments in the rich lodes of gold, iron, coal, and copper, and in the bars of the rivers, which have become no longer useful to the pan or cradle in the hands of the miner. All along the whole route from the Coast Range down to old Fort Yukon the close observer can see vast treasures in the mountains—coal, marble, and copper—only waiting for the country to develop to such an extent as to bring them within reach of the outside world.

The country south of the Pelly River is quite well timbered. It is a good grazing country; all the hardy vegetables grow well, and even wheat ripens.

It is a fine game and fish country. Bear of several varieties, moose, caribou, wolves, and many fur-bearing animals abound. It is doubtless the greatest country in the world for the silver and the black fox. The rivers and lakes are teeming with many varieties of fish, while grouse and rabbits are numerous along the shore. Water fowl of many kinds are plenty, and their long sojourning in these inland waters gives to their flesh a flavor which, although high and gamy, never acquires that repulsive, fishy taste so universal to the fowls of this coast.

When once this country is made accessible from the Sound points by proper transportation facilities it can be reached in ten days. Then it will become one of the greatest tourist countries of the world, for where is grander scenery, a more beautiful climate, or a more favored spot than in this lake country during three months in summer? The shores are bordered by strips of green meadow, bedecked with wild roses and an endless variety of flowers of the most delicate tints, while terraced open and timbered slopes stretch away to high mountains, which in turn are backed by snow-capped peaks. During the whole summer scarcely any rain falls, with the exception of an occasional thundershower; the sun is seldom lost sight of, except for a brief period at night.

Within three years it will be possible to leave Seattle in the spring, work in the mines all summer, and return in the fall. Then the importance of these vast gold fields will come to be realized, and in the near future the word Yukon will associate itself so closely with that of gold that its mere mention will convey impressions of an Eldorado rivaling that of fable.

The foregoing, read in the light of recent events, shows that the writer was endowed with the spirit of prophecy. The following extract

from the introduction to Miner W. Bruce's work on Alaska, published in 1895, indicates that he, too, held substantially the same views in regard to the future of that Territory:

> The field is large, and already the dawning of great enterprises fills the minds of ambitious projectors. Gold fields are to be opened up, railways built, possibly with a span of communication with the Old World, besides many other projects which will cause the active American brain to vibrate with new vigor. And if the writer can awaken any patriotic sentiment to further and protect the interests of this grand Territory, he will be satisfied.
>
> He can not consistently advise those seeking a place to make a home, or those looking for a new field of labor, to choose Alaska, unless they have some means, and a reasonable amount of stamina and good health. To any one possessed of these qualifications, he unhesitatingly and unqualifiedly says "Go."
>
> He is in earnest when he says that he believes the next few years will present many opportunities for investment and for laying a foundation for lucrative business enterprises, and perhaps wealth. But if any one expects to acquire these without experiencing the hardships and privations incident to pioneer life, he will be disappointed.

Until the past season, on account of the lack of transportation facilities and the consequent impossibility of bringing mining machinery into the country, but little attention had been given by the miners of the Yukon basin to the subject of the possible discovery and development of quartz ledges. Now that the introduction of machinery within the next two or three years is within the bounds of probability, an active interest is being taken in the search for quartz. It is known to a certainty that many gold-bearing leads, that can be worked profitably under favorable conditions, exist at the head of the north fork of Forty Mile Creek and that they have been traced across the head of Seventy Mile. The great copper belt, which crosses the Yukon at Dawson, extends through Alaska to the Copper River country. This belt crosses the Tanana Valley from 100 to 150 miles from Circle City, and the Indians and a few white men who have been in that country report that native copper is found in large quantities, often in masses weighing from 20 to 100 pounds, in the bed of the streams, indicating beyond doubt that the region is exceedingly rich in copper. The proposed railroad from the head of Cook Inlet or Prince William Sound, referred to in the section on Transportation, would strike the Tanana in the heart of this great copper zone, a fact which effectually disposes of the principal objection to the construction of a railroad into a placer mining country by the assurance of an immense tonnage of return freight to tide water.

During the present winter (1897–98) many prospectors have gone from Circle City to the head waters of the Tanana River, where it is rumored good creeks have been found, and quite a number have gone up the Porcupine from Fort Yukon; so it is quite likely that by the middle of the coming summer it will be definitely known whether there is any truth in the marvelous stories told by the Indians relative to the

richness of those streams. Without regard to new discoveries, however, as stated elsewhere, there are thousands of acres of placer ground in the various districts that will yield fine returns under the application of hydraulic processes, while there are large veins of bituminous coal in many localities that offer attractive inducements to capital.

The Territory of Alaska must necessarily be divided, agriculturally, into three districts, each differing from the other in climate, vegetation, and physical characteristics.

The Yukon district is bounded on the north and west by the Arctic Ocean and Bering Sea, on the south by the Alaskan Range, and on the east by the boundary line.

The Aleutian district embraces part of the Alaska peninsula and all the islands west of the one hundred and fifty-fifth degree of longitude.

The Sitkan district includes all our Alaskan possessions south and east of the peninsula.

The Yukon district is the only one immediately considered in this report, as the interest now centers in that section. The character of the Yukon territory varies from low, rolling hills, fairly easy of ascent and covered from foot to crown with a luxuriant growth of vegetation, to broad, marshy plains extending for miles on either side of the river, especially near its mouth. The rocks vary much, the greater proportion being conglomerate, syenite, quartzite, and sandstone. Trachyte and lava abound in many parts of the valley. The superincumbent soil also differs in some localities, being sometimes sandy and sometimes clayey. In the latter case it is frequently covered with a growth of sphagnum, which causes a deterioration of the soil below it. Over a large extent of country it is a rich alluvium, composed of very fine sand and vegetable matter brought down by the river and forming deposits of indefinite depths, and in such localities fresh-water marl is invariably found in abundance. The soil in summer is usually frozen at a depth of three or four feet in ordinary situations; in colder ones it remains icy to within twelve or eighteen inches of the surface. The layer of frozen soil is usually six or eight feet thick, and below that depth the soil is oftentimes destitute of ice. This phenomenon is undoubtedly traceable to the scant drainage, combined with the non-conductive covering of moss, which prevents the scorching sun of an almost tropical midsummer from thawing out the soil. In places where the soil is well drained and is not covered with moss, as in the large alluvial deposits near the mouth of the Yukon River, the frozen layer is much farther below the surface, and in many places appears to be entirely absent. There is no doubt that in favorable situations, by drainage and deep plowing, the ice can be entirely removed from the ground, and, as will be noticed later on, it is safe to say that this subterranean ice layer is essentially due to the mossy accumulations that are so prevalent in the Yukon territory. It is quite possible to conceive of a locality so depressed and deprived of drainage that the

annual moisture derived from the rainfall and melting snow would collect between the impervious clayey soil and sphagnous covering, congeal during the winter, and be prevented from melting during the ensuing summer by the nonconductive properties of the mossy covering. The lesson that the agriculturist or political economist may learn from this peculiar formation is that a luxuriant growth of vegetation may exist in the immediate vicinity of permanent ice, bearing its blossoms and maturing its seeds as readily and profusely as in situations much more favorable. Hence it is safe to infer that a large extent of territory, embracing millions of acres, long considered valueless, may yet furnish to the settler, if not an abundant harvest, at least an acceptable and not inconsiderable addition to his fare of fish, game, and canned goods.

The climate of this territory in the interior differs from that of the seacoast, even in localities comparatively adjacent, that of the coast being tempered by the vast body of water in Bering Sea, and many southern currents bringing warmer water from the Pacific and making the coast much milder than the country even thirty miles inland. The summers, on account of the heavy rainfall and cloudy weather, are much cooler and less pleasant on the coast than in the interior. The months of May, June, and July are sunny, fairly warm, and clear as a rule, and the development of plant life is extremely rapid. The snow has hardly disappeared before a mass of herbage has sprung up, and the patches which but a few days before presented the appearance of nothing but a white sheet are now teeming with an active vegetation, producing leaves, flowers, and fruit in rapid succession. The long arctic day seems to have little deleterious effect on plants, as they have their period of sleep, even as in the Tropics, which is indicated by the same drooping of the leaves and other signs observed in milder climates.

Many people have a wrong impression as to the duration of day and night here. While it is true that in the months of June and July and part of August the sun is visible for possibly twenty hours out of the twenty-four, and there is no darkness akin to night during the remaining four hours of the day, the spring and autumn are very similar to those seasons in a lower latitude, save in the rapidity with which the hours of sunlight increase or decrease. In the summer months it is only at night that the traveler or prospector is able to accomplish anything, as there is sunlight enough at midnight to read or work by, and the cool breezes that blow only at that hour bring relief from the stings of the myriad insects that have made the tropic-like day so unbearable.

The winter months are not so dark and gloomy as they are generally supposed to be. While the sun is visible for only a few minutes on December 21, the amount of actual sunlight is four and a half hours, and even after the entire dissipation of sunlight the light reflected by the snow and that borrowed from the aurora enables the traveler to

pursue his way, while the moonlight in this region seems to attain a higher brilliancy than in lower latitudes, it being possible to read by its aid, and photographs of even distant objects have been very successfully taken by an exposure of fifteen minutes.

The following table shows the mean temperature of the seasons as observed in 1894:

MEAN TEMPERATURE OF EACH SEASON, 1894.

Season.	Locality.		
	St. Michaels.	Nulato	Ft. Yukon.
Spring	29	20	14
Summer	53	59	60
Autumn	26	36	17
Winter	9	—14	—24

The present winter (1897–98) has been one of phenomenal mildness. Observations of temperature at Circle City during the months of October, November, and December, 1897, show the following results:

	8 a. m.	8 p. m.
October:		
High	30	30
Low	—18	— 6
Mean	8	
November:		
High	20	20
Low	—40	—39
Mean	— 7	
December:		
High	26	6
Low	—34	—30
Mean	— 6	

The mean annual temperature of the Yukon Valley, from the mouth of the river to the boundary line, may be roughly estimated at 23 degrees. The greatest degree of cold ever recorded in this district was 77 degrees below zero, but such cold as this is exceedingly rare, and has but little effect on the vegetation of the country, covered, as it is, with from three to five feet of snow.

Open water is found in many of the tributaries of the Yukon, even in the coldest weather, and many springs are never frozen. This phenomenon is particularly noticeable between Circle City and Fort Yukon. Oftentimes when traveling over a well-beaten trail in the coldest weather, when one's breath is frozen as rapidly as exhaled, a yellow smudge indicates that possible danger is lurking in the middle of the trail; but while you hesitate the smudge disappears and a volume of yellow water boils over the surface of the ice, and you break a new trail around the treacherous spot. This peculiar uprising of the water is undoubtedly due to the existence of hot sulphur springs in the bed of the river. The water at these points has a decidedly sulphurous taste.

The real opportunity for agricultural enterprise in any country can not be deduced from annual mean temperature alone, but it is in a measure dependent on the heat and duration of the summer. It is a common occurrence for the thermometer placed in the direct rays of the sun to rise gradually to 120 degrees and burst the spirit thermometers in use here, which intensity of heat can only be appreciated by one who has endured it. The only relief obtainable from the torridness of the summer months on the Upper Yukon, during which vegetation attains an almost tropical luxuriance, is found in the brief time when the sun sinks almost to the horizon in the north; the transient coolness of the midnight air then becomes a blessing to the weary voyager.

The annual rainfall for the Yukon Valley is estimated by careful observers at about twenty-five inches, while on the coast it is from sixty to seventy inches. The snow fall will probably average six feet in the Yukon district, although oftentimes it is as much as ten or twelve feet.

In the interior there is much less wind than on the coast, and the snow lies as it falls among the trees. Toward spring the gullies and ravines are well filled, the underbrush covered, and travel with dogs becomes easy and pleasant, for the snow, melted on its surface by the noonday sun, has been frozen to a crust, rendering snowshoes entirely unnecessary.

In the valley of the Lower Yukon the months of May and June and part of July bring sunny, delightful weather, but the remainder of the season is usually rainy—three or four days in the week, at least. In the latter part of the summer it is somewhat foggy, but as one ascends the river the climate improves, and the short summer is dry, hot, and pleasant, only varied by an occasional quick shower.

The climatic law which governs the distribution of trees and plants also seems to limit the wanderings of the aborigines. The Eskimos extend all along the coast and up the principal rivers as far as the tundra or flat lands reach. The Indians who populate the interior seldom pass without the boundary of the woods. Neither perform any agricultural labor whatever, unless one can so designate the picking of wild berries, which form their only vegetable food, except the roots of the wild parsnip and the leafstalks of a species of wild rhubarb. Until comparatively recent times little had been done toward agricultural progress, but the day is not distant when many varieties of vegetables will be grown around the miners' cabins in this icebound region.

The first requisite for habitation or even exploration in any country is timber. With it almost all parts of the Yukon territory are well supplied. The treeless coasts even of the Arctic Ocean can hardly be said to be an exception, as they are abundantly supplied with drift-wood from the immense supplies brought down the mighty Mackenzie and the not less majestic Yukon and other rivers and distributed all along the coast line of Alaska by the waves and ocean currents.

The largest and most valuable tree found in the Yukon territory is the white spruce. This beautiful conifer is found over the whole country a short distance inland, but largest and most vigorous in the vicinity of running water. It attains a height of from 50 to 100 feet, and a diameter at the butt of one to two feet. The wood is white, close, and straight grained; it is easily worked, being light, yet very tough—much more so than its Oregon relative. For spars it has no superior, but is, as a rule, too slender for masts. It is very enduring, as is evidenced by the existence in the Yukon district of many houses built by the Russians sixty or seventy years ago, the timbers of which are to-day as sound as when they were built. It is interesting to note in this connection that the age of the spruce of the Yukon forests, as indicated by the annular fiber, is as great as that of the giant Douglas spruce of the lower coast, it being not uncommon to find here a tree with an eight-inch trunk that has attained an age of six or seven hundred years. This fact is attributable to climatic conditions, and eliminates from the problem of a future timber supply all calculations as to a new growth during the present cycle. The northern limit of this tree is about 67 degrees latitude. The unexplored waters of the Tanana bring down the finest logs of this species in the spring freshets. The number of logs discharged annually at the mouth of the Yukon is truly incalculable.

The tree of the next importance is the birch. This tree rarely grows over forty feet high and eighteen inches in diameter. It is the only hard wood found in the Yukon territory, and everything requiring a hard and tough wood (sleighs, snowshoes, etc.) is constructed of birch. A black birch is also found here, but it is too small to be of much use.

There are also several species of poplar. One of these, the balsam poplar, grows to a very large size, frequently attaining a height of sixty or seventy feet and a diameter of two or three feet. The wood of this tree, however, is too soft to be of much importance.

Willows and alder are more generally distributed than any other variety of trees. Along every creek in this territory one finds these species in great abundance, varying from ten to fifty feet in height, but rarely exceeding four or five inches in diameter. The wood of these trees is practically useless, being rotten at the heart, although the inner bark of the willow was much used by the natives in making twine for nets and seines before they could purchase twine from the commercial companies now trading on the river.

Other species of timber rising to the rank of trees in this district are the larch and some dwarf species of pine—not of such importance, however, as to warrant classification in this report, the woods being used for fuel when no other timber can be easily reached by the traveler.

The treeless coasts of the territory, as well as the lowlands of the Yukon, are covered in the springtime with a luxuriant growth of grass and flowers. Among the more valuable of the grasses is the well-

known Kentucky blue grass, which covers millions of acres in the Yukon flat lands, and grows luxuriantly even as far north as the Peel River. This is one of the most valuable pasture grasses known, as it endures the most rigorous winter as easily as the drought of a tropical summer, and is without doubt more nutritious than any other species of grass. It is on this grass that the settler who determines to combine agriculture with any other pursuit will depend for his supply of hay for winter feeding.

The wood-meadow grass, which in nutritive properties is akin to the Kentucky blue grass, is also very abundant, and would furnish cattle with an agreeable and fattening pasturage.

The blue-joint grass also reaches as far north as the Peel River latitude, and grows with a marvelous luxuriance. It reaches, in favorable situations, three or four feet in height, and may be used advantageously in the feeding of cattle.

Many other grasses grow abundantly and contribute largely to the sum total of herbage. Two species of southern lyme grass are found in the Yukon district that almost deceive the traveler with the aspect of grain fields, maturing a perceptible kernel which the small rodents lay up in store for winter use.

Grain has never been sown to any extent in this district. Barley has been tried at Fort Selkirk, near the mouth of the Pelly River, in small patches, and in the early days at Fort Yukon, and there was success at both places in maturing the grain, although at both the straw was very short. Grain sowing has never reached beyond the experimental stage, but these experiments have proved conclusively that grain could be grown in the Yukon Valley, and in abundance. It can be safely averred that sufficient grain can be grown in this district to supply the home demand for cattle feed, if enough energy is devoted to agriculture.

Turnips and radishes flourish exceedingly well all along the river from Fort Selkirk to St. Michaels. The white, round turnips, grown in this district from imported seed, are as fine as can be found anywhere, and are very large, some weighing as much as six or seven pounds. They are crisp and sweet, although the very large ones are hollow-hearted.

Potato growing is an established success. Nearly every trading post along the river has its own little potato patch, and although the tubers are small, they are of very fine quality. Care must be taken, however, that the seed potatoes are not frozen in the winter.

Salad growing is very successful. Cauliflowers of huge size may be grown if the seed is planted in shallow boxes in the houses and the plants not transplanted into the open ground until the summer is well advanced. These plants mature very rapidly, and well repay the little attention given them.

Cabbage will flourish under like conditions, and large heads of this esculent vegetable will be the result of a little timely care.

Tomatoes have not been grown, so far as can be learned, but if the seeds are sown in boxes in the house and the plants are not put into the ground until they are of good size, there is no reason why this vegetable should not flourish in this region, as the hot, dry summer is just what the tomato requires.

With such a variety of feed as may be grown in this district in abundance, there is absolutely no reason why cattle, with proper protection in winter, can not be successfully raised and kept in most parts of the Yukon Valley, fodder, as previously shown, being so abundant.

As might be supposed, there are no tree fruits in the Yukon Valley suitable for food, but small fruits of many varieties are found in great profusion. Among these may be noticed red and black currants, gooseberries, high and low bush cranberries, raspberries, salmon berries, thimble berries, killikinnick berries, blue berries, moss berries, juniper berries, and rose berries. The latter, when touched by frost, form a very pleasant addition to a somewhat scanty stock of comestibles, the flavor being an admixture of those of the crabapple and persimmon combined. All these berries, except the salmon berry, or Morosky of the Russians, are excellent antiscorbutics and possess, besides their edible qualities, other medicinal virtues. From many of them the most piquant and delicious preserves are prepared by the better educated natives and the white population, and they form an excellent adjunct to the eternal diet of fish, game, etc.

It is of course highly improbable that the Yukon territory will become an entirely self-supporting agricultural district, or that anyone will be able to obtain a subsistence by farming alone; still the settler called here to develop the resources of the country, be they fish, furs, or gold, may have fresh milk in his coffee and fresh vegetables on his table if he possess the energy and knowledge to make the most of his opportunities. It will not be necessary for him to rely on the products of the chase or the importation of food stuffs by the trading companies alone, if he will but take the care to provide suitable shelter for his cattle, gather for their winter fodder the perennial grasses which cover the flat lands and river bottoms, or uncover the abundant root crop which he has had energy and forethought enough to cultivate.

In summing up the agricultural resources of the Yukon Valley, it may be stated that its abundant capacity for producing root crops of good quality and large quantity may be considered as settled. Oats and barley, possibly wheat and rye, may be successfully raised under careful, systematic cultivation. In Iceland, where the temperature often falls as low as 35 or 40 degrees below zero, it is well known that fully 75 per cent of the population derive their maintenance from agriculture, and there is no reason why the Yukon territory, where the climatic conditions are not less favorable, should not supply a considerable amount of garden produce after proper preparation of the soil.

Notwithstanding the extremely rigorous winters of the Yukon district, it is essentially a healthful country, the only prevailing diseases being those of a pulmonary nature, and in nine cases out of ten the natives are the only ones afflicted. Rheumatism is somewhat common among the white population, but this is undoubtedly caused by extreme exposure. Scurvy, contrary to general opinion, is not prevalent, the only cases that have come under notice having been the result of culpable negligence of ordinary cleanliness, lack of proper food, or an inadequate amount of outdoor exercise. A peculiar form of fever of a typhomalarial type is found in the more thickly settled districts, but this is of a certainty due to the want of the most ordinary sanitary measures. Deep drains and a consistent amount of precaution will entirely dissipate the pestilential prevalence of this endemic disease.

It will thus be seen that the Yukon basin offers a much more diversified field for enterprise than is popularly supposed, and it is quite within the bounds of established fact to say that 100,000 people can find remunerative employment and a fairly comfortable existence in this region as soon as the means of transportation of food supplies shall justify so large a movement of population.

While society on the Yukon, like the geological formation, is as yet a sort of conglomerate, it is rapidly becoming stratified, and although the towns lack many of the comforts and conveniences that make life in the highest sense enjoyable, they are by no means social barrens, for there are among the inhabitants a large number of men of culture and refinement whose firesides are adorned by as charming representatives of American womanhood as can be found in localities much more favored in other respects.

BUSINESS OUTLOOK, OPPORTUNITIES FOR LABOR, ETC.

There is no man in the Yukon basin who has a more comprehensive understanding of the abnormal conditions existing there than Capt. John J. Healey, manager of the North American Transportation and Trading Company. Captain Healey, who for many years was a resident of Fort Benton, Mont., has had a varied experience on the frontier, and has proved his courage on many occasions, from encounters with the Blackfeet and Piegans to engagements, as sheriff of Choteau County, with Missouri River and Yellowstone "rustlers." He entered this field in 1892, as one of the organizers of the great company of which he is now manager, having previously for six years been a partner in the trading post of Healey & Wilson, at Dyea. No better text for this chapter could be chosen than the following statement, which was taken stenographically from Captain Healey, at Dawson, on September 25, 1897:

In regard to the business outlook of this country, I would say that people who are organizing to come here to engage in commercial enterprises should understand that it takes two years' capital to do one year's

business. They can not come in here and secure returns in one year. Such persons should also understand that they can not build boats and get here the same year. We have tried it three years in succession and have failed each time. The difficulties to be overcome are too great.

There is another point to be taken into consideration in comparing prices here with those outside, and that is that we can not effect a dollar's worth of marine or fire insurance this side of St. Michaels. We have to carry our own marine, fire, and ice risks on the Yukon, and not many people are willing to put their capital into enterprises of this kind. We are carrying our own insurance because we can not help ourselves. Of course we insure on salt water as far as we can.

In my opinion there is a good field for day labor in the country. There is mineral of all kinds from coast to coast. Take Alaska from the southeastern coast, skirting around the Bering Sea and the Arctic Ocean, it is all a mineral range. You can not go anywhere but you will find minerals of all kinds. The trouble is in furnishing supplies under present conditions. The country is so vast that it will take years to supply it with food stations. The navigable streams, it is true, will be first utilized; but both Governments must organize a system of roads from these streams into the interior. They must construct roads into the Rockies on the north and east side of the Yukon and into the Alaskan Range on the south and west. If we had a force of people, whether military, police, or engineers, that would devote their time to building these trails and roads, I think the reindeer could be introduced here and utilized to good advantage. I believe the reindeer will be the coming pack horse of this country.

There is another thing to which I would like to call the attention of the Government. I have thought it over often, but have not yet formulated my suggestions. The most destitute native race on earth to-day are the Indians on the lower Yukon. For 300 miles from the mouth of that stream the principal subsistence of the native population consists of fish and oil. As you come higher up the river the condition of the Indians improves. They were in a wretched condition until we came into the country and gave them an opportunity to earn a little money by cutting wood for our steamers. Our Government ought to do something for those Indians. I am not an advocate of Indian agencies or anything of that kind. I do not believe in keeping the Indians in idleness, but the Government can utilize their services, and this can be done by making mail carriers of them and employing them to cut trails, and a native military organization might be established in the lower Yukon country. They are the best workers on earth, and the cost would be insignificant. All they want is a little flour, tea, and tobacco, and these can be laid down very cheaply by the transportation companies. Such a utilization of the services of these people would be of great benefit not only to them but to the Government. Under present conditions many of them die of starvation every winter. The Indians farther up the river are better off, because they work around the mines. They have abandoned the fur trade and are engaged in mining, packing, and hunting. They can get from 50 to 75 cents a pound for all the game they kill.

In regard to the outlook in Alaska, I will say that there is an abundance of low-grade diggings in that country at Forty Mile, Birch Creek, Minook, Seventy Mile, Coal Creek, and American Creek that will support thousands of men when they are ready to work for $7 or $8 a day. There are large tracts of country that will pay those wages. In some

of the claims they can work but three months in the year, while in others they can work all the year round. In the mines where they ground-sluice the season is sometimes quite short, but in the drift diggings, which are above water line, they can work the year round.

There is no doubt that there is room here, in work and prospecting, for all the idle miners in the United States. A great many of them will be disgusted when they come here and will not remain and prospect on account of the radical change from the conditions to which they have been accustomed. They have to be able-bodied and act as their own pack horses, and of the men who have been used to riding a cayuse through the mountains and taking a pack animal with them not one in ten will stay in this country, wading through the muck, brush, and moss and fighting the mosquitoes. In order to succeed here a man must have an iron nerve and constitution, and those who are not so constituted should remain away. It is going to require slow, hard prospecting to develop our resources. You can not see anything; everything is covered by moss, vegetation, and brush. There are no prairies, but it is all an undergrowth of brush and timber. The country has not been prospected at all as it should be. Prospectors follow up the rivers in boats as long as they can, and if they leave their boats at all it is only for a day, with a little lunch on their backs, so that they can get back to their supplies. That is the only kind of prospecting that has been done. There is not a man in the country who knows what is back from the river a hundred miles; there is not a man living that has been back a hundred miles from this water course to engage in systematic prospecting.

There is coal down about Cudahy and ten miles from there. There is a five-foot vein of fine coking coal within eighteen miles of here, about eight or ten miles from the river. There is coal on the American side, about fifty miles above Circle City. There is also coal below Circle City, near the Tanana.

Copper, asbestos, antimony, and galena abound, and there is a good deal of low-grade, base ore in the country. I have not seen any free-milling gold ore yet. In time, when labor and provisions become cheaper and the transportation companies can lay down supplies at reasonables prices, these low-grade ores are going to give employment to a great many miners. My opinion is that Alaska and the Northwest Territory within fifty years will produce more minerals than all the other mineral regions of the country put together. I may be visionary, but this is my opinion, based on personal observation. The Tanana Valley will astonish the world even more than the Klondike has. That is the great copper district. The mines that can give employment to large numbers of men for long periods of time are the ones from which the country reaps the most substantial benefits.

About the labor question. I have had a great many men make application to me for assistance, saying that they were broke and wanted to secure an outfit for the winter. This was early in the season, a month or six weeks ago. I said to them, "Why don't you go to work?" They replied, "Well, we don't want to work for wages; we want to work on a lay." The wages in the mines are $15 a day, and the wages of laborers are $10 a day, and I told them that they could go to work for wages and in thirty days have enough to buy an outfit for a year; but still they would not go to work. I thought I would stop the thing. A few friends of mine have some claims, and they wanted some men at $10 a day to work them; so I put up a notice, "Eight or ten men wanted; wages, $10 a day." You know the claim owners have decided on pay-

ing a dollar an hour from the 1st of October, furnishing the men cabins to sleep in, the miners furnishing their own food. The first application I have had to work for $10 a day, in response to that notice, came in to-day.

I advise the bringing in of silver coin. It is the medium which people use in traveling, in paying the Indians for their little services, etc. There is not a man traveling who does not want an ounce or two of dust changed into silver. Each Government ought to have an assayer, so that a man could take his gold dust to him and have it run into bullion; then that man could come to us with his gold, which would have the stamp of one of the Governments on it, and we could give him our check for it.

Captain Healey's statement is commended to the careful consideration of all who contemplate coming to this country either to engage in commercial enterprises or to participate in the uncertain pursuit of hidden treasure.

There are very many intelligent and practical men here who differ radically with Captain Healey as to the difficulties and unprofitableness of commercial enterprises on the Yukon. The representatives of both companies claim that neither made any money during the past season on account of their ill success in getting freight to Dawson. A few figures on this point may be suggestive. As stated by the agents of the companies, and as verified by reference to the manifests, 2,930 tons of freight were landed in Dawson during the season. In their system of accounts a charge of $75 per ton, approximately, is made against transportation from San Francisco and Seattle to St. Michaels, and a charge of $60 per ton from St. Michaels to Dawson, or a total of $135 per ton, and a grand total of $395,550 as the cost of transportation for the 2,930 tons carried. It will be assumed, for the purpose of this illustration, that the $395,550 covered all expenses of transportation from San Francisco and Seattle to Dawson. It is susceptible of mathematical demonstration that the average selling price of all merchandise is not less than 35 cents per pound (it is greater than that, but the figure given will suffice for this illustration), or $700 per ton. If it be suggested that much of this tonnage consisted of clothing, dry goods, drugs, etc., a large proportion of which becomes dead stock, and much of which can not be treated on the basis of weight, an adequate reply is that such portion of this class of merchandise as is sold (commanding as it does from 200 to 1,000 per cent profit) brings prices per pound to a figure more properly stated in dollars than cents. At the price named, $700 per ton, the gross receipts for the 2,930 tons amount to $2,051,000. We will now assume the first cost of the 2,930 tons of merchandise was 10 cents per pound, or $200 per ton, which gives us $586,000. Adding this sum to the expenses of transportation, and allowing $200,000 for the cost of administration of the Dawson establishments, we have $1,181,550, and subtracting this from the gross receipts we find that the net receipts, after paying all operating expenses, amount to $869,450. As the business is conducted on a

strictly cash basis, we do not have to consider bad debts; but if it be suggested that we have overlooked breakage, wastage, and incidental expenses, we may be able to dispose of these in this manner: We will assume that fifty tons of liquors were landed in Dawson (it was much more than that), and allowing ten pounds to the gallon, including packing, we find that this amounts to 10,000 gallons, which at $17 per gallon gives a total of $170,000. Deducting from this $35,000, a sum we have already used in our computation of $700 per ton for merchandise, it leaves $135,000 to cover breakage, wastage, and incidental expenses. In this calculation we have taken no account of the cost of plant, which is placed by the companies at $400,000, assuming that this will be taken care of out of the profits on the 2,000 or more tons of freight landed at Forty Mile, Circle City, Fort Yukon, and Minook, all of which is being sold at prices approximating those charged in Dawson. No consideration has been given to St. Michaels and stations on the river other than those named, as they are all assumed to be self-supporting. While this showing of results for Dawson, judged by Klondike standards, may not be considered magnificent, it is certainly pretty good for a bad year. That the miners of the Klondike are able to stand this drain, supplemented by the still more extortionate charges of conscienceless speculators, and yet send out of the country enough gold to astonish the world, indicates that the richness of their mines has not been greatly exaggerated. These figures, which can be applied as well to the Forty Mile and Birch Creek mines, also show why the miners of those two districts, although they have for years been taking out large quantities of gold dust, have never been able to send enough of it to civilization to impress the world with the richness of their mines.

An experienced river man here has made the following statement: "I could buy 300 tons of bacon in Seattle at 8 cents per pound, or a total cost of $48,000. I could construct a knock-down steamboat of 300 tons for $30,000, and on the basis of $18 per ton could land my steamer and bacon at St. Michaels for $10,000. It would cost probably $10,000 more to put the steamer together, making her total cost $40,000. I might not be able to get up the river the same year, but I could surely get up the following summer. Allowing for an expenditure of $350 a day for twenty days from St. Michaels to Dawson, the cost of transportation on the river would amount to $7,000. My total expenses, therefore, would be $105,000. If I could sell my bacon for 40 cents per pound, the price at present charged by the companies, my gross receipts would be $240,000. I could then set fire to my steamer and turn her loose in the river and still make over 100 per cent on my original investment, with $30,000 to spare for contingencies."

While the above figures would indicate that there are great opportunities to make large profits in commercial enterprises on the river, it should be borne in mind, as Captain Healey states, that the risks and

difficulties are very great, and that it is necessary to wait two years for returns, while it is quite likely that so many will enter the field that competition will reduce the profits to a narrow margin. No organization with less than $100,000 of capital could hope under present conditions to successfully compete with the companies already established.

The most successful ventures during the past year, outside of the operations of the companies and the mines, have been in the importation of beef cattle and sheep. Altogether about 350 head of cattle and 1,550 head of sheep were brought over the trails and down the river to Dawson, and all who engaged in the enterprise made money, as they sold their beef and mutton at prices which averaged $1 per pound. It should be stated, however, that the season was extremely favorable, both as to its length and the condition of the streams, which had to be forded. If the water had been high in the streams a large number of cattle would undoubtedly have been lost in swimming them. One drover reports that in crossing the Chilkat River he was forced to sit helplessly on his horse and see his herd of eighty-five cattle disappear in the quicksand until in many cases only their heads were visible. Fortunately, the quicksand was shallow, and the cattle were rescued by means of lariats, but in an exhausted condition, which rendered it necessary to allow them several days' rest. This drover finally reached Dawson with sixty head, having lost twenty and sold five on the way. In addition to the risks involved, the expenses attending such undertakings were very heavy. A large number of horses were necessary, and although the men employed on the coast were engaged at reasonable wages for the trip, many of them deserted at various points, compelling the employment of others at $10 a day, and even larger wages in some cases. Some of the drovers were four or five months on the way, and all this time of course were under a heavy expense in the matter of wages and subsistence. It is noteworthy, as showing the uncertainty in the minds of the drovers as to the prices they would be able to secure at Dawson, that two of them who had their herds at Fort Selkirk about the middle of September, awaiting cold weather before slaughtering, were willing and anxious to sell at 50 cents per pound by the quarter to people passing down the river, although, as subsequently learned, beef was selling for $1 and $1.25 per pound at Dawson, only 160 miles below Fort Selkirk.

Many small traders made money during the summer by bringing in over the trails and down the river small stocks of goods which brought large prices, this being particularly true of diamonds and watches, which sold at prices that yielded a profit of from 100 to 150 per cent; wolf and bear robes, which cost from $40 to $50 in Seattle and sold here for from $150 to $250; cow-boy hats, costing $4 in the States and selling in certain circles for $17, and many other articles in like proportion. Others did not do so well, some even being forced to sell at prices

which yielded no profit whatever. A large number of men have gone out over the trail this winter (1897–98) for the purpose of bringing in goods of various kinds, but as it is impossible for anyone to foresee what lines will be scarce, this species of gambling is about as uncertain as speculating on the stock exchange.

At first thought it would seem that there ought to be an immense profit in freighting for $2 per pound, the price offered in October for the transportation of supplies from Fort Yukon to Dawson. The recital of one man's experience in such work during the past fall, with the view of showing the risks involved in such undertakings, may be of interest to the general reader and instructive to those who contemplate embarking in similar enterprises. About the middle of October the leading packer of Dawson, who had been engaged during the summer in packing to the mines, found that it would be necessary, owing to the scarcity of supplies and the consequent falling off of business, to withdraw some of his horses from the trail, and as the lack of feed made it impracticable to employ them in other work, he decided to take them to Fort Yukon in scows and engage in freighting from that point as soon as the ice should form. On the announcement of his intention he was overwhelmed by tenders of $2 per pound, in advance, for all the freight he could bring back, and as he could transport 1,200 pounds to the animal it was quite clear that under favorable conditions his gross earnings would amount to the comfortable sum of $21,600; but with a wisdom born of four years' experience in the business, he declined to enter into any agreement, preferring not to run the risk of facing the holders of broken contracts. On October 22 he left Dawson with nine head of horses, loaded in scows, and in charge of five men, one of whom was engaged at $350 per month and the others at $200 per month apiece and subsistence. His horses were worth at least $225 apiece, as he could have sold them for that price for dog meat, and he had purchased three scows at an aggregate cost of $300. He had employed men at Forty Mile during the summer to cut and store six tons of hay at a cost of $800. His initial outlay, therefore, was $3,125, exclusive of supplies for his men. Forty Mile was reached without accident, although the ice was running heavy and strong, and the hay was taken on board and distributed at various points below for the purpose of feeding on the return trip. Twenty-five miles below Forty Mile the scow containing the horses struck a rock, and one of the best animals was thrown overboard by the force of the collision and drowned. The damaged scow was repaired and no further serious trouble occurred until a point about sixty-five miles above Circle City was reached, where it was discovered that the river had closed. It being impossible to proceed with the horses until the ice became stronger, and there being but little feed for them, the packer came on to Circle City afoot to procure enough feed to last until the trail should open. Three hundred pounds of flour was purchased at $35 a hundred and a dog team employed at

an expense of $250 to carry it up to the camp. At the end of ten days it was thought that the ice was strong enough for the horses to travel on it in safety, and the attempt was made to bring them to Circle City.

The ice was so thin that all of the horses frequently broke through into the chilling water of the river, and it was with great difficulty that any of them were rescued, three being drowned on the way down. After two weeks of great suffering and privation for man and beast, the packer reached Circle City with five of the nine horses with which he started from Dawson. They were allowed a week's rest, meantime being fed on damaged flour at a cost of $5 a day per head, and then the packer started with them for Medicine Lake, some sixty miles from Circle City, where he had six tons of hay which he had had cut during the summer of 1896, at a cost of $360. On the way out one of the horses fell on the ice, breaking his leg, and had to be shot, while another injured himself so badly by a fall that he died. The packer proceeded to Medicine Lake with his three remaining horses, secured some of the hay, and returned to Circle City, where he is now engaged in hauling wood at $12 a cord. If the horses were in good condition, it would be possible to make $36 a day to the animal at this price; but as they are very weak and shaky on their legs, their owner works them barely enough to pay running expenses, which are as follows: Wages of three men, $750 per month; subsistence of men, $150; subsistence of horses, $450; total, $1,350. At the end of the first month the packer dispensed with the services of two men. His expenses for the first month were as follows: Loss of six horses, $1,350; cost of scows, $300; wages, $1,150; subsistence of men and horses, $700; total, $3,500. All he has to show for this outlay is three very puny horses that will probably never reach Fort Yukon alive, and nine or ten tons of badly scattered hay that cost him about $1,000, and that may become available some day, if another man with sufficient courage to bring horses down the Yukon should ever put in an appearance.

While those engaged in freighting with dog teams are more successful than the unfortunate packer whose experience is related above, their returns are far from adequate when the outlay for dogs and the hardships of a life on the trail are taken into consideration. The most successful freighter on the Birch Creek trail last winter, working with a team of eight dogs that cost him $1,600, made twenty-seven round trips during the freighting season of as many weeks. His gross earnings were $3,200, of which $800 is still outstanding, and his expenses were $1,200, leaving him for seven months of most exacting labor $1,200 cash in hand—a comfortable sum, it is true, measured by standards which prevail in the United States, but which here was soon dissipated in the purchase of an outfit for the next season's subsistence, and in the payment of other necessary expenses.

The best team engaged this winter in freighting between Circle City and Fort Yukon, a distance of eighty-five miles, consists of eight dogs,

for which the owner has been offered and refused $4,000 cash. A round trip can be made in ten days with a load weighing 1,400 pounds, exclusive of camp outfit and dog feed. At the prevailing rate, 25 cents per pound, the gross earnings amount to $350. The expenses are as follows: Wages of trail-breaker, $100; cost of dog feed, $80; subsistence of men and incidental expenses, $50; total, $230. Deducting this sum from the gross earnings, the freighter has for his ten days' hard work $120, a figure that is not attractive here, especially when one considers the amount he has invested in dogs, the hard work he has to perform, and the fact that he finds it necessary to spend two or three days at each end of the route to rest his dogs and himself.

It should be borne in mind that the two instances just given are exceptional, and that the average freighter does not do anywhere near as well as those mentioned. Furthermore, the freighters at Circle City have just received the discouraging news (to them) that the scarcity of provisions at Dawson is not as serious as people have been led to suppose, and that therefore they can not hope to obtain more than $1 per pound for freighting to that place—a rate which yields scarcely any profit, on account of the long haul, necessitating the carrying of so much dog feed that the freight space is greatly reduced.

Thus it will be seen that on account of the difficulties of transportation and the uncertainties of the market, the field for legitimate commercial enterprise on the Yukon is circumscribed and precarious. There is one line of commerce, however, that offers vast opportunities to American enterprise, as the power of the community to consume the commodity involved is so great that it is not likely there will ever be an oversupply. This is the illicit traffic in alcoholic liquors—the curse of Alaska and the source of the wealth of many of its most prosperous citizens, and some who live beyond its limits. The ring, with headquarters at Portland, dominates the entire region from Juneau to the Arctic Ocean, and from the Aleutian Islands to the Klondike, and carries on its operations at every point in the vast territory described where a few white men congregate for the winter, or wherever Indians are gathered in sufficient numbers to justify the pursuit of its nefarious enterprise. Its agents openly boast that no Government official can withstand their blandishments, and in support of the boast do not hesitate to name ex-officials of the customs and revenue service who, after a short term of office here, have returned to private life with large sums of money which by close attention to business and strict economy they were enabled to save from aggregate salaries amounting to probably one-fourth of the sums realized. Primarily, the General Government itself is responsible for this deplorable state of affairs. In the organic act relating to the District of Alaska the importation, manufacture, and sale of alcoholic liquors is prohibited except for "medicinal, mechanical, and scientific purposes." Conscientious customs officials, one of whose

duties it is to enforce this provision, on arriving here are confronted by the staggering fact that revenue officials are already on the ground issuing licenses to saloon keepers on every hand. What an alluring invitation to corruption, and what an illimitable field it presents for the exploitation of the commercial genius of an enterprising American citizen so constituted that he can detach his conscience and leave it at home! In other ways the provision above referred to possesses wonderful elasticity; for instance, there is extant a permit, issued at Sitka, for the sale during a period of twelve months from its date of 2,000 gallons of whisky for "medicinal, mechanical, and scientific purposes" in a community of such meager population that the quantity of whisky mentioned represents a supply of twelve gallons per capita, and where there is so little sickness from natural causes that a physician who placed his dependence on that class of practice would starve to death, and where the mechanic arts are as yet unborn.

Happily for the honor of the country the present administration of the customs service is clean and vigorous, and the officials here are doing all it is possible to do, under the anomalous conditions, to prevent the sale of liquors, but with their poor equipment and the immense areas they are expected to cover they find it impossible to control the traffic.

It would be far better, even from the ethical point of view, to adopt a properly regulated, high-license system than to retain the present absolutely inefficient provision. Of course, the object of the law, primarily, was to prevent the sale of intoxicating liquors to the Indians; but from the first it has utterly failed to accomplish its purpose. Now that white men are coming into the country to develop its resources, they ought to be given white men's laws and be relieved from the humiliation of being treated like Indians. Under the operation of the present law, which makes liquors liable to confiscation, the dealers import the vilest stuff known to the trade, consisting principally of unrectified high wines and even less inviting raw material. The only whisky sold here that can in any sense of the word be called "good" (and then only by comparison with high wines, etc.), is that which is bonded to Northwest Territory and then smuggled from Fort Yukon and Dawson into Circle City. The practical effect of the law is to force upon the community the worst liquors that can be manufactured, while as to quantity and in other respects the traffic is but slightly restricted.

It might seem that the moral and physical effects of such a condition could easily be imagined by anyone reading the simple facts, but no one who has not witnessed the workings of the law on the ground can have any conception of the blighting influence of the infamous traffic. In this connection a word of warning should be spoken to parents who are afflicted with wayward sons and contemplate sending them to the Yukon in the hope that the pure mountain air and the simple outdoor life may wean them from evil associations at home. From the number

of such young men that have been sent here for a reformatory course it would seem that there must be an impression that this country offers a safe asylum to the victims of perverted appetites; but such is not the case. Young men who need reformation are the very ones who should not come here. Their safe course is to remain where civilization puts its shields around them.

Putting aside all consideration as to its moral and physical effects, it must be admitted that the traffic offers great attractions to the man who wants money so badly as to render it immaterial to him how he makes it. High wines and "hootch" (*a*) command $30 and $20 per gallon, respectively, in Circle City at the present writing, while whisky brings from $40 to $100 per gallon when obtainable. The saloon keepers charge 50 cents a drink, using a glass that enables them to extract seventy drinks from a gallon. Through the dilution of the raw material in the proportion of two to one they receive about $100 per gallon for the stuff when sold over the bar. Latterly their industry has been somewhat injured in the matter of profits by unscrupulous wholesale dealers in high wines who have adopted the rule of doing the diluting themselves, thus practically getting from $40 to $50 per gallon for high wines formerly sold for $30. The middlemen complain bitterly of this dishonest usurpation of their prerogative, but are obliged to submit or resort to the only alternative—hootch.

There is absolutely no field in the Yukon basin at the present time for professional men. It would require a population of 20,000 to assimilate the lawyers, physicians, dentists, electrical engineers, etc., now on the ground. A large proportion of this class already here are, apparently, men of fine qualifications and thorough masters of their professions, and in the nature of things will have a great advantage, in the matter of acquaintance with men and conditions, over those coming into the country hereafter. Most of them are spending the winter in idleness, consuming their substance and cursing the country. Nearly all who have the means to return home next year have announced their intention of doing so, but many will be forced to remain here and join the army of the unemployed. They can not work in the mines, and would make poor prospectors; for, as Captain Healey truly states, it requires a man of iron nerve and constitution to stand the hardships of the hills. Typewriter operators and commercial stenographers can find no employment here until the two Governments give to the country a mail service that will enable merchants and other business men to communicate with the outside world.

a Hootch is the Indian name of a vile substitute for whisky that is sold by the saloon keepers throughout the Yukon basin when their supply of the but little less vile whisky is exhausted. It is distilled from an admixture of sour dough, rice, raw sugar, and unsalable dried apples. This product, which is sold by the manufacturer for $20 per gallon, is exceedingly rich in fusel oil and other diabolical constituents. By an ingenious process, known only to themselves, the primary step in which is the addition of two gallons of Yukon water, the saloon keepers are enabled to convert a gallon of hootch into three gallons of so-called whisky.

The statements made in the sections on the Klondike and Dawson relative to the opportunities for wage workers are equally applicable to northern Alaska. Many mine owners here are making their calculations on a basis of $6 per day for labor, and confidently express the opinion that the influx of people next summer will enable them to work their mines at that rate of wages. Whether the reduction will occur next summer is questionable, but it can not be long deferred. When wages drop to $6 per day this country will offer no inducements to a workingman with a family.

There are two classes of young men that need not be discouraged from coming here. The young man of good health and ample means, who can afford to spend a year or two in looking over the ground and watching for opportunities to invest in mining property, furnishing "grub stakes," etc., will find an attractive field here, and the young man of robust constitution and a capacity to carry 150 pounds on his back all day over a steep mountain trail will stand a good chance of striking it rich in the hills.

Finally, no man should come into the country without at least 1,500 pounds of provisions and sufficient means to take him back to civilization at the end of the year in case of failure.

Since the above was written, a newspaper containing a letter from William Ogilvie, esq., land surveyor of the Dominion Government, has come to hand. On account of his long residence here and his thorough knowledge of conditions on the Yukon, no man is better qualified than Mr. Ogilvie to give advice on the subject treated in this section, and the liberty is taken of quoting a portion of his letter:

To those contemplating coming into the country to advance their fortunes I would say emphatically, consider the reports you hear concerning the rich returns of Bonanza and Eldorado as a matter of history, from which you can derive no more benefit than you would from reading the record of the richness of the finds of Australia and California in the early days. These two creeks, as I have already said, are completely occupied, and I can at present recall only one case where the whole of a claim is the undivided property of one individual. Many of them are split up into four interests, some six, some eight; but even those small interests will enrich the parties holding them.

To-day, had you means to purchase an interest in any of them, you have means enough to stay at home with vastly more comfort and benefit to yourself. To all who contemplate coming in, I would say, very few possess the requisite fortitude and patience for the task before them, and I have no more doubt of the sun rising and setting to-morrow than I have that a very large percentage of those now anxiously awaiting some means of getting into the country, leaving it possibly in a few hours after they have arrived, will be disgusted with themselves for having listened to what they will consider idle tales when once they are landed there.

To a man determined to better his position in life, untrammeled by family cares, with means enough at his command to lay in provisions and supplies for a year at least, of good physique and health, abundance of fortitude and patience, and determined to spend, may be, ten years in one country and see it out, I would say: You possibly can

not do better, though you would probably find at the expiration of that time that your plodding brother or neighbor remaining at home has achieved at least as much worldly success, with much more enjoyment of life and much less physical exertion. There are exceptions to this, no doubt many of them, but it is the rule. If you are determined to try your luck in Alaska, as the whole gold-bearing country is termed generally, come, hopeful and self-reliant, but at the same time have your mind prepared for disappointment, it may be, bitter and long-continued.

Bonanzas and Eldorados are not often struck. Such spots are few and far between; but there is other ground, and much of it, too, that will yield as good a return for labor expended as most of the gold mines in the world, I have no doubt. It is, then, Come prepared and determined to find it, and I hope you will succeed in doing so. But do not be disappointed if years roll by without your achieving more than an ordinary living. This is the experience of many men now in the country, who have been in it for years, while some, I know, who were only in it months, went out this season rich.

TRANSPORTATION: NAVIGATION OF THE YUKON, POSSIBLE RAILWAY ROUTES, ETC.

The Yukon is one of the great rivers of the world. In length it is exceeded in North America by the Mississippi, the Missouri, and the Mackenzie only, and in the volume of water it carries to the sea by the Mississippi alone, while in the sustained grandeur of its ever-changing panorama of mountain and vale it surpasses all its rivals.

It is formed by the confluence of the Lewes and Pelly rivers, and is 2,155 miles long. Lewes River, so called, which has its source in Crater Lake, in American territory, just below the summit of Chilkoot Pass, nineteen miles from Dyea and 381 miles from its junction with the Pelly, should be known as the Upper Yukon, as it carries a much larger volume of water than the Pelly, the Teslin (Hootalinqua), or the Tahkeena, each of which is claimed by many to be the true head waters of the Yukon. With the Lewes added, the great waterway has an extreme length of nearly 2,600 miles, placing it among the four longest rivers in North America.

In order to furnish accurate information to travelers, and especially to river men and others who contemplate engaging in navigation on the Yukon, great pains have been taken to secure facts from men who have been running on the river for years, and the following matter relating to the subject can be accepted as presenting the most trustworthy data obtainable here at the present time.

The first steamboats to navigate the Yukon above the missions and trading posts on the lower river were the *St. Michael*, the *Yukon*, and the *New Racket*, boats of about twenty tons each, all of which ascended as far as Forty Mile during the season of 1887. The *Arctic*, a boat of 225 tons, belonging to the Alaska Commercial Company, loaded for Forty Mile in 1889, but was disabled in Norton Sound and did not reach that post until the following summer. With the increase of the

STEAMERS IN WINTER QUARTERS, CIRCLE CITY, ALASKA.

output of the mines of the Forty Mile district and the development of the Birch Creek mines the Alaska Commercial Company was obliged to make additions to its fleet in order to keep pace with the growing business. In 1892 the North American Transportation and Trading Company entered the field with the steamer *Weare*, and established a trading post at Forty Mile known as Fort Cudahy, which has been followed by posts at Dawson, Circle City, Fort Yukon, and Rampart City (Minook). The Alaska Commercial Company has posts at Dawson, Forty Mile, Circle City, Fort Yukon, Fort Hamlin, Rampart City, Tanana, Nulato, Anvik, and Andreafski. Both companies have large stores and warehouses on St. Michaels Island, which is located in Norton Sound near the mainland, sixty miles north of the Aphoon mouth of the Yukon, and is the distributing point for the Yukon trade. St. Michaels is 3,200 miles from San Francisco, the passage by ocean steamers being made in seventeen days, while from Seattle the voyage is made in three days less. The distance from St. Michaels to principal points on the river are as follows: Fort Adams, 1,250 miles; the Tanana, 1,265; Minook, 1,315; Fort Hamlin, 1,385; Fort Yukon, 1,665; Circle City, 1,750; Forty Mile, 1,997; Dawson, 2,050; Sixty Mile, 2,105; Fort Selkirk, 2,210.

Four of the Yukon boats—*Weare*, *Bella*, *Victoria*, and *St. Michael*—in winter quarters at Circle City, are shown in the accompanying illustration. The *Victoria* and *St. Michael* also appear in the first illustration, the *Victoria* to the right.

The North American Transportation and Trading Company has three boats plying on the Yukon.

The *Weare*, which was launched in 1892, is 175 feet long, 28 feet beam, and 5½ feet depth of hull, and has a carrying capacity of 335 tons when drawing 4½ feet, and accommodations for sixty passengers. She has two fire-box boilers, containing 70 tubes each, and two high-pressure engines, with 13-inch cylinders and 72-inch stroke, which can develop 1,900 horsepower, producing a speed of ten miles an hour in slack water.

The *Healy*, which was launched in 1896, is a little larger than the *Weare*, being 175 feet long, 32½ feet beam, and 5 feet depth of hull, and she has the same kind of machinery as the *Weare*. Her carrying capacity is 400 tons when drawing 4½ feet, and she has accommodations for 125 passengers.

The *Hamilton*, the new boat, which was launched last August, is 190 feet long, 36 feet beam, and 6 feet depth of hull, her carrying capacity being about 500 tons, with 4½ feet draft. She has three 36-tube boilers 42 inches in diameter and 24 feet long, which supply two D-valve, high-pressure engines, with 26-inch cylinders and 7-foot stroke, of 2,500 horsepower. She accommodates 200 passengers, and is the fastest boat on the river, being capable of a speed of seventeen miles in slack water, and making ten miles an hour upstream against an average current. She is provided with electric lights and a search light, and is in every respect a first-class modern river boat.

STEAMERS IN WINTER QUARTERS, CIRCLE CITY, ALASKA.
Victoria.
Weare.

From an interview with Vice-President P. B. Weare, which appeared in the Chicago Times-Herald of July 28, 1897, the following statement is taken:

We have ordered all the material and machinery for an 800-ton light-draft steamboat, up to date in every particular, including electric lights, to be built this fall at St. Michaels Island. She will be named *John Cudahy* and will be fitted for passengers as well as freight. * * * We are also building a very light-draft steamer, which will run on eighteen inches of water. She will be called the *Klondike*, and will be employed to tow barges during the low-water stage in the Yukon. We are constructing five 200-ton barges, which, when loaded, will draw not to exceed twenty-four inches. We have bought and will take to St. Michaels Island a very powerful tug, which will be employed to tow barges with supplies from Fort Get There (St. Michaels Island) to the town of Weare, 500 [*sic*] miles up the Yukon. She will make two trips this fall. The mouth of the Yukon is choked up by drift from Bering Sea until early in July, fully one month after navigation of the inner river has opened. We can do at least four weeks' work inside before the mouth of the river is navigable. We shall winter all our boats about 400 miles from the mouth of the Yukon.

The Alaska Commercial Company had four steamers running on the river the past season.

The *Bella* is 140 feet long, 33 feet beam, and 7 feet depth of hull. She is provided with hermaphrodite, double-expansion engines without condensers, having a 72-inch stroke and a 14-inch bore in the high-pressure cylinder and a 24-inch bore in the low-pressure cylinder. She has 2,200 horsepower and a speed of twelve miles an hour in slack water. Her carrying capacity is 125 tons when drawing 4 feet of water and a little over 200 tons when loaded to 6 feet draft. She has no accommodations for passengers, having been built specially for towing barges, frequently taking two barges as far as the Lower Ramparts.

The *Alice* is 165 feet long, 33 feet beam, and 8 feet depth of hull. Her boilers and engines are of the same type and power as those of the *Bella*, and she carries 300 tons when loaded to 4½ feet. She has accommodations for seventy passengers, and her speed is about nine miles an hour in slack water.

The *Margaret* is a 400-ton barge converted into a steamboat, having the machinery of the old steamer *Arctic*, which was wrecked last May when the ice broke up, at a point three miles below Forty Mile, where she had been forced to lay up for the winter. The *Margaret* has single-expansion, high-pressure, slide-valve engines, with 14-inch cylinders and 5 foot stroke, of 900 horsepower, and can make nine miles an hour in slack water. Loaded with 300 tons she draws 4½ feet. She has no accommodations for passengers.

The *Victoria* is 85 feet long, 19 feet beam, and 5 feet depth of hull. She is equipped with high-pressure slide-valve engines of 250 horsepower, with 10-inch cylinders and 36 inch stroke. Her carrying capacity is sixty-five tons, and her speed about seven miles an hour in slack

water. She has no accommodations for passengers, having been built specially for upriver freight traffic.

Besides these four boats the company has three 400-ton barges, 140 feet long, 32 feet beam, and 7 feet depth of hull, drawing when loaded 4½ feet.

The company is building at St. Michaels, to handle the growing business, a towboat similar to the *Bella* in size and power, and four barges, each 140 feet long, 33 feet beam, and 7 feet depth of hull, with a carrying capacity of 400 tons. They are also building at San Francisco a steamboat 220 feet long, 40 feet beam, and 5 feet depth of hull. She will be provided with three Otis steel boilers, 42 inches in diameter and 26 feet long, each having five 9-inch return flues and 2,200 horsepower high-pressure engines, with 20-inch cylinders and 72-inch stroke. Her carrying capacity will be 700 tons when loaded to 4½ feet, and she will have seventy-six staterooms, accommodating 152 passengers.

Each of these boats carries a crew composed of the captain, the purser, two pilots, two mates, two engineers, two firemen, one carpenter, two cooks, one watchman, two deck hands, and from twelve to fifty roustabouts, according to the size of the boat and the cargo. The salaries and wages are as follows: Captain, $2,500 per annum; purser, $100 per month; pilots and mates, $100 per month each; engineers, $120 per month each; firemen, $2 per day each; carpenter, $100 per month; cooks, $75 and $50 per month; watchman, $75 per month; deck hands, $2 per day each, and roustabouts, $1.50 to $2 per day each. The pilots, firemen, and roustabouts are usually Indians.

The boats consume from one to two cords of wood per running hour, according to boiler capacity. Wood is purchased at the wood yards for $4 a cord, or cut by the crew at various points as it may be required.

The passenger rates between St. Michaels and Fort Selkirk are at present as follows: From St. Michaels to Kutlik, $5; Akulurak, $6; Andreafski, $11; Russian Mission, $17; Koserefski, $21; Anvik, $23; Nulato, $28; Kokerines, $35; Fort Adams, $40; Tanana, $41; Minook, $45; Fort Hamlin, $50; Fort Yukon, $64; Circle City, $65; Seventy Mile and Forty Mile, $75; Dawson and Sixty Mile, $90; Stewart River, $95; White River, $96; Fort Selkirk, $100. Downstream, the rate from Fort Selkirk to St. Michaels is $60, and proportionate rates for intermediate points. First-class ticket from St. Michaels to San Francisco, $120; from San Francisco to Dawson, with an allowance of 150 pounds of baggage, $175; to Circle City, $150.

The freight rate upstream is calculated on the basis of 53 cents per ton per running hour, the minimum rate from St. Michaels to Circle City being $100 per ton; to Forty Mile, $128; to Dawson, $136, and to Fort Selkirk, $150. Downstream the rate is 55 cents per ton per running hour, the minimum rate from Fort Selkirk to St. Michaels being $70 per ton; from Dawson, $65; from Forty Mile, $61, and from Circle City, $53. It should be stated in this connection that the rates given

for upstream traffic are nominal, as the companies do not carry freight upstream for the general public except in rare cases. The rate for dogs is one-third of passenger rates if in charge of owners; from below Nulato, $40 per head. Live stock, full passenger rates; minimum charge (other than dogs), $15 per head.

As detailed under the head of Dawson, the result of the season's navigation was the landing at that place of only 2,930 tons of freight, which is within a few tons of the carrying capacity for one trip of the entire fleets of both companies—a very poor showing, and one that must be attributed to the mistake that has been made in the past of attempting to run the entire length of the river with boats that are too large to navigate successfully that portion of the stream between Fort Yukon and Dawson. It is the unanimous opinion of experienced steamboat men here that no better results can be attained until the companies introduce boats of lighter draft for the upper river, using their larger boats to transport freight to Fort Yukon, and making that place the distributing point for the upper river. A model boat for the lower Yukon would be one 220 feet in length, 36 to 40 feet beam, and 5 feet depth of hull, built on rather broad lines, and equipped with poppet-valve engines of 2,250 horse power. Such a boat could carry 800 tons with 4 feet draft, could make eight round trips during the season between St. Michaels and Fort Yukon, and, in cooperation with three small boats of 200 tons each and of high power, could land in Dawson every season 6,000 tons of freight, or enough to supply the present population of the district.

Capt. E. D. Dixon, an old Mississippi River steamboat man, now in the employ of the Alaska Commercial Company, has furnished the following statement:

The navigation season on the Yukon usually extends over a period of four and a half or five months. The ice breaks up at the Pelly, 2,155 miles from the mouth of the river, from the 1st to the 10th of May, and the upper river clears at the rate of about 100 miles a day, the ice finally running out of the mouth of the river about the 1st of June. Norton Sound becomes free of ice from June 20 to July 1, and the ocean steamers can generally get to St. Michaels during the first week in July.

From St. Michaels to the mouth of the Yukon, a distance of sixty miles across Norton Sound, there is never less than four feet of water at high tide, while at extremely high tide there is a depth of five or six feet, and sometimes as much as ten feet. During low tide there is frequently less than two feet of water at the mouth of the river.

The Aphoon mouth is about half a mile wide. There are four or five mouths to the river, separated by long, narrow islands. Just above the islands that split the river into its various mouths it is about four miles wide at high water; at low water the main channel is not more than four or five hundred yards, but it is very deep.

The Yukon River, from the time you enter the Aphoon mouth until you get to old Fort Adams, a distance of 1,250 miles, has about the same current as the Mississippi from Alton to St. Paul, and is very deep. From old Fort Adams to the Tanana, a distance of fifteen miles, the current runs about five miles an hour. From the Tanana to the

Rampart Rapids, a distance of fifty miles, the current is about four and a half miles an hour. The water begins to get swift about four miles below the rapids, and there is a six and a half to a seven mile current until you reach a point three miles above the rapids, which are two miles long. There is plenty of water along there. From there to Fort Hamilton, at the head of the ramparts, the current is four miles an hour. Then you strike the Yukon Flats, where the river gets very wide. There are a great many channels, with islands and dry gravel bars between. At the head of each of those bars there is a riffle, and the water is very swift on the riffles, running from four and a half to six miles an hour. Those riffles average about a mile in length. After passing through a riffle you strike slower water, with a current of perhaps three or four miles an hour. There is a succession of these riffles until you get to White Eyes, seventy miles below Fort Yukon At White Eyes in high water the river is eight or ten miles wide, with many channels, but in low water there is only one channel and the river is not over two or two and a half miles wide. From there up to Fort Yukon the current gradually increases and the river gets shallower. I have never seen the river with less than six feet of water at any point below Fort Yukon. The shallowest riffle is at White Eyes, and the lowest water I ever saw there was six feet, and that was the lowest water known there for years. At a medium stage of water there is sufficient depth at Fort Yukon. The steamers have been running in the wrong channel. The bed of the Yukon is composed of gravel, similar to that of the Ohio River, and the channels never change except in the spring of the year from the effect of ice gorges. When these occur and get a sufficient head of water to move the gravel it sometimes makes a change in the channel. The channels do not fill up from sedimentary wash. The Yukon is not one-half as muddy as the Mississippi. The Lower Mississippi at low water is muddier than the Yukon at high water. From White Eyes to Fish Camp, twelve miles above Circle City, the current averages about five and a half miles an hour. It runs swifter than that on the riffles, of course. From Fish Camp to Dawson we have a narrow river, averaging about half a mile in width, with an average current of six miles an hour. In ordinary stages of the river there is from six to seven feet of water on the highest bars. The Yukon is an ideal river for navigation. There are no rocks, no bowlders, and no snags to hinder navigation. All the rocks in the river are easily located by the breaks the current throws over them, and they are all near shore. It is one of the prettiest rivers under the sun to navigate. Owing to the frozen condition of the banks they do not cut even in the swiftest places. If it was not for the frost in the ground this river, with its swift current, would cut the banks and wash and spread so that it would be impossible to navigate it. It is a very deep river. There are places where you can not find bottom with an ordinary line. At Nulato and some ways above the Russian Mission the river is quite narrow, not over a mile and a half wide and very deep. It carries there about half the volume of water that the Mississippi carries at New Orleans. There is always plenty of water in the river during the warm season. A great drawback is the early frost at the head waters. When the frost comes it diminishes the volume of the small streams and stops the snow water from coming in out of the small gulches, and that produces low water in the main river.

The Yukon could be navigated successfully if we had Mississippi River steamboat men as captains, pilots, and engineers. Nearly all the men engaged in handling the boats here are deep-water sailors. While

they are good deep-water sailors, they do not know anything about currents and sand bars. After a Mississippi pilot makes a round trip on this river he can read it like a book. He understands locating reefs, shoal places, and landmarks. The Indian has no such faculty and has proved a failure as a pilot. He steers by instinct only, and as soon as it becomes dark he loses his head. Fortunately we have daylight nearly all the time throughout the navigation season.

The fuel question is one that bothers us greatly on the Yukon, especially on the lower river. For the first 600 miles from the mouth of the river we are obliged to depend entirely upon driftwood. This driftwood comes from the upper river and lodges on the shores and on the islands, and the Indians chop it. That is all the fuel we can obtain there. The timber has been destroyed by the action of the ice in the spring. There are islands a mile long and half a mile wide, which were formerly well timbered, that have been denuded of every vestige of timber by the action of the ice, which sweeps over the islands in the spring break-up and cuts trees off like grass blades. Eventually we will have to resort to the use of coal. There is an abundance of coal from the Tanana up, and there is good coal only forty-five miles above here [Circle City], and right at Forty Mile. There is splendid coal in the Lower Ramparts, thirty miles this side of Minook. I have been in the bank myself and took out enough to try it, and I found it first-class coal for making steam. We have to pay $4 a cord for all the wood we buy for use on our boats. When we run out of wood between yards we land at the first drift pile and all hands go to work with axes and saws and cut wood. We carry from twelve to fifty Indians—as many as fifty and never less than twelve—for this work and pay them $1.50 a day; sometimes $2 a day in the fall.

There is some complaint about supplies being so dear in this country. They are not as dear here as they were on the Missouri River during the boom days in the Black Hills. The expenses of transportation and the maintenance of large trading posts and stores have got to come out of what the companies get for the supplies they sell in this country. They have got to construct their boats here, which makes them cost twice as much as they do back home. It cost $325 a day to run the *Bella* this summer. Then the greater part of the crew must be paid and fed for the entire year; whereas, back home, when a boat is laid up for the winter, the crew is discharged and seeks other employment until the opening of navigation. The *Bella's* crew at the present time consists of twelve men, all of whom are under pay the year round. I receive $2,500 a year; the engineer, $120 a month; the mate, $100 a month; the cook, $75 a month; the cabin boy, $30 a month, and three Indians receive $1.50 a day each. I do not know the wages of the deck hands, as they were hired below. Besides all this expense there is the item of repairs. Our wheel and rudder are badly broken, and we must whipsaw lumber to make repairs. It costs a mint of money to run a boat under such adverse conditions.

Last winter the *Bella* laid up at Fort Yukon. The river opened on May 17, and on May 26 we started for Dawson, with one barge in tow and about 275 tons of freight. We came to Circle City and took on about as much more freight and 225 passengers, and landed at Dawson on June 2. We left the same day for Forty Mile, loaded there with 120 tons of freight and forty-five passengers, and returned to Dawson, arriving there June 5. In the evening of the same day I took my barge in tow and left for Sixty Mile for a load of lumber. We arrived there the next day, and leaving the barge with men to load it, we went on to

White River, with Mr. Harper and Mr. Ogilvie, the surveyor, aboard. We came down from White River on the 7th, hitched on to the barge, and reached Dawson that evening. On the 8th we came down to Forty Mile, and on the 9th we went down to the wreck of the steamer *Arctic*, five miles below Forty Mile, and took her machinery out and put it on the barge, and left on the 13th for the mouth of the river. We got down to the mouth June 23, and laid there two days, waiting for the wind to go down so that we could cross the sound. Then we crossed to St. Michaels and were there three days. We started up the river on our first trip June 28, with one barge and 450 tons of freight, and got to Dawson July 15. We left Dawson July 17 and got to St. Michaels July 25. We loaded up again with 450 tons of freight on one barge, and left St. Michaels July 27, with 39 passengers, arriving at Dawson August 17. Returning, we left Dawson August 18 and reached St. Michaels August 27. We loaded up the steamboat and two barges with 750 tons of freight and started up the river August 31 with 21 passengers. We left one barge at Andreafski and brought the other barge, drawing four and a half feet, to Rampart City. There I put off 90 tons of freight. That lightened the barge up to four feet. Then we came to Fort Hamilton, where I lightened the barge to 26 inches; then we came to Fort Yukon, where we unloaded the barge and the steamboat, and then reloaded the boat with 125 tons of bacon, flour, beans, lard, sugar, tea, and coffee, and proceeded up the river. We left 37 tons at Circle City and put the remainder into Dawson, arriving there September 30. We left Dawson on October 1 and arrived at Circle City October 13, with 126 passengers, having been caught for nine days in the ice on the way down. The *Bella* is now in the mouth of the slough at Circle City for the winter.

The details given by Captain Dixon relative to the depth of water and the currents in the river will undoubtedly be found of great interest and value by pilots and other steamboat men who contemplate entering this field.

The captain's statement in regard to the expense of running steamboats requires some modification, as the figure given by him is merely nominal. In the nature of things the Indians who cut wood along the river have no use for money except to buy the necessaries of life, and as a consequence they are paid for their wood in trade. Every steamboat has a storeroom containing an assortment of goods specially selected for the Indian trade and in charge of the purser, whose duty it is to settle with the Indians for the wood they deliver on board the boat. Wood, which now costs $4 per cord, is paid for in flour at $4 per sack of 50 pounds; calico, 3 yards for $1; tea at $1 per pound, and other articles in like proportion. The flour, which costs $1.20 per hundred in San Francisco or Seattle, is what is known as "trading" flour, a product which the white man avoids except under stress of impending starvation, but which the Indian is glad to get at any price, because he can do no better, and the tea is of a low grade that sells for about 15 cents per pound at retail in the United States, when it sells at all. Stark Mills improved standard drilling (A) is exchanged at 50 cents per yard, and smoking tobacco that sells for 5 cents a package outside is taken with avidity by the Indians at 50 cents, while they accept at

the same figure per pound, but with somewhat less enthusiasm, a quality of leaf tobacco known as "sheep dip" in the pastoral communities of our western States. It is interesting to note the movement of prices during the past few years in the traffic with the Indians on the river. Formerly the Indians charged $1.50 per cord for wood, and the companies paid for it in trading flour at $1.50 per sack of 50 pounds, and other commodities in like proportion as compared with present prices. With the influx of the superior race the Indians learned in some degree the value of money, at least so far as abstract units are concerned, though it is doubtful whether the full significance of the term "purchasing power" has as yet reached their inner consciousness. This new knowledge created a discontent which resulted in an advance in the price of wood to $2.50 per cord. The companies cheerfully accepted the new rate and at the same time raised the price of flour to $2.50 per sack, the prices of other articles being increased in like proportion. After a season or two it began to dawn on the aboriginal intellect that the advance in price had not been accompanied by a corresponding increase in the comforts of life, and the price was raised to $4 per cord, the companies again meeting the demand with prompt acquiescence and a concurrent increase in the prices of their commodities. Here again we have an Alaskan paradox, for the Indians are still dissatisfied with the price they receive for their wood, although it has advanced within a comparatively short period from $1.50 to $4 per cord, while the companies, on the other hand, view the increase with complacency, born, of course, of the knowledge that they are getting their wood for what it has always cost them, something less than $1 per cord. It would seem, in view of the exceedingly favorable terms on which the steamboats secure their fuel, that the Indians, in receiving payment in goods, might be granted at least the choice of selection; but in many cases, as the last sticks of wood are being carried aboard, the whistle is blown and the lines cast off, while the purser thrusts into the hands of one or two of the Indians packages of flour, tea, tobacco, etc., and hustles the crowd down the gangplank to divide their pittance among themselves on shore as best they may.

While the showing in tonnage of freight transported up the river during the past season was exceedingly poor, as stated, the companies were even less successful in handling the passenger traffic. Up to September 3, 1897, the date on which the last steamboat to reach Circle City left St. Michaels, the following-named vessels, which sailed from ports on the lower coast after the commencement of the Klondike "boom," had arrived at that place with the number of passengers indicated: *Humboldt*, 267; *Excelsior*, 113; *Bertha*, 13; *Portland*, 155; *Cleveland*, 163; *National City*, 50; *South Coast*, 45; total number of passengers, 806. At the date named fourteen more vessels were expected to arrive at St. Michaels before the close of the season with probably 1,000 passengers. Of this large number only 72 got as far as Circle City,

and but 38 of these succeeded in getting to Dawson, while about 350 reached Fort Yukon, about 20 remaining there for the winter, and the others returning to various points down the river.

H. T. Watkins, M. D., of Olney, Ill., who was a passenger on the *Cleveland* and who reached Circle City on the *St. Michael*, has furnished the following interesting statement relative to the difficulties experienced in getting up the river:

It is with pleasure that I comply with your request for a statement in detail of the trip of the stern-wheel steamer *St. Michael* from the island of St. Michaels to Circle City, Alaska. On the morning of August 18, 1897, the steamer *Cleveland*, which left Seattle, Wash., August 5, dropped anchor in the harbor of St. Michaels with 160 passengers bound for Dawson, Northwest Territory, Canada. When these passengers got ashore they found the news from up the Yukon River of such a disquieting nature as regarded the food supply at upriver points that each one at once began to devise ways and means of taking provisions along with him. The two transportation companies absolutely refused to carry more freight than 150 pounds of baggage for each passenger. Mr. Shepherd, the agent of the North American Transportation and Trading Company at St. Michaels, defended the position of the company to a committee of five appointed by the passengers of the *Cleveland*, by stating that it would be unfair to the men already in the country without food to carry food for individuals, but that all should share alike when their boats should reach their destination. While these conferences between the trading companies and their passengers were taking place the stern-wheel steamer *St. Michael*, 14½ tons burden, belonging to the Jesuit Mission at that place, came into port. Sixty passengers at once formed a cooperative association called the Y. M. C. A. (Yukon Miners' Cooperative Association), and bought the boat and her barge for $10,500, assessing each member $200. After buying the boat they had $1,500 left for the incidental expenses of the trip. They drafted by-laws for the government of the association, the executive part of the business being put in the hands of five directors, who selected a volunteer crew of sixteen men from the sixty stockholders. Each man was paid $1 for the trip. None of the crew understood anything about steamboating excepting Capt. E. T. Barnette, of Helena, Mont.; Thomas Marshall, of Gloucester, Mass., mate, and W. L. Thompson, of Galway, Ireland, second mate. The engineer was Charles R. Stewart, of New York. The balance of the crew was fully represented by a lawyer, a doctor, clerks, drummers, miners, and a poor, lone tramp printer. Each share of $200 represented a one-sixtieth interest in the steamer and barge, and entitled the shareholder to the privilege of transporting 1,000 pounds of freight to Dawson or any intermediate point on the river, but not to passage for himself. All the stockholders, except the crew, took passage up the river on the steamer *Healy*. Each stockholder gave the secretary a list of the kind and amount of provisions he wished, and the aggregated amount of each kind of provisions was bought and loaded on the boat and barge in a common cargo of thirty-five tons, including the baggage of the crew. On the morning of August 29 the *St. Michael* put to sea, bound for the Yukon River. The sea was too rough for a boat of her size. The swells at times lifted the stern of the boat clear of the water, and her wheel at such times would make two or three rapid revolutions in the air and the next minute be half submerged in the succeeding swell. She put

back into the harbor of St. Michaels and traversed the canal that passes through the island, at the mouth of which she laid over until night, when she made the run across Bering Sea to the mouth of the Yukon River, which was reached early the next morning. Here we had great difficulty in entering the river. Our Indian guide, called by courtesy "pilot," apparently did not understand the route into the river by the main channel, for after putting the boat hard aground the second time that morning he lost his head completely, and the only expression we could elicit from him was, "Me no savey, me no savey." After great labor with capstan and spar the boat was worked into deeper water and the anchor dropped, and a channel deep enough for the boat to enter the river was found by sounding in a rowboat ahead of the steamer. Six hours were lost here in getting off the bar and hunting a deep channel into the river, and the boat barely reached fuel in time to escape the predicament of being practically at sea without motive power, as we were burning our last cord of wood when we reached the first wood pile on the Yukon. Our Indian guide had often piloted this same boat into the Yukon River, but never before with a cargo, and had been in the habit of entering the river regardless of channels. Unloaded, the steamer drew about eighteen inches; loaded as she was, her draft was three feet nine inches, and this explained the failure of the Indian guide. The deepest water we found at the mouth of the river was four feet, but we had missed the opportunity of entering the river at high tide.

The greatest difficulties encountered, aside from some troubles that occurred between the stockholders in the enterprise during the latter part of the trip, were the finding of trustworthy pilots and securing wood for fuel when needed and in getting through some stretches of very rapid water encountered on the trip. If the captain and the two mates of the *St. Michael* had not been good judges of bad water it would have been impossible for the boat, manned as she was, to accomplish her passage of 1,750 miles up the river. During the early part of the trip the Indian pilots took their turn at the wheel with the captain and the mates, but they very soon proved their inefficiency by getting into shoal water and on bars and were relieved of this duty entirely and used merely as guides to the river, it being difficult to find the main channel without them, as the river is cut into many channels by islands so large that to a stranger to the water they have the appearance of being the mainland. In justice to the Indian pilots on the other boats plying the river it must be said that it is very probable that we had to deal with men that were not experienced pilots, as it is likely that the transportation companies have all the experienced river pilots in their employ.

Another trouble which arose in dealing with the Indian guides arose from the fact that they have no sense of honor as regards contracts. None of the guides was paid less than $4 a day, yet one of them struck for higher wages four times in coming a distance of 150 miles. We acceded to his demands each time, but when we reached his stopping place we paid him, as per original contract, $4 a day.

At noon on September 4 we reached the Holy Cross Mission, 370 miles from St. Michaels. Here we stopped to get some tools belonging to the boat and visited the mission school for the education of Indian children. It contained about thirty boys and thirty girls. This is the only point on the river where we saw a pound of food that had not been imported into the country. Through the kindness of the mother superior and Sister Mary Winnifred we were shown through the garden of the

mission. This garden was planted in the middle of May, two weeks before the ice broke up in the river, and was worked at night, as at that season of the year this is the land of the midnight sun. The garden contained potatoes, cabbage, rutabagas, turnips, and cauliflowers. The sisters had a hill of potatoes dug in our presence, and it contained fifteen large and three small potatoes, fully matured. The cabbages were large and the heads solid and firm. They were of the Early Jersey Wakefield variety, the only kind found by experiment to mature into solid heads in this latitude.

Up to the time we reached Nulato, 630 miles from St. Michaels, where we arrived September 8, no difficulty was experienced in regard to fuel. Plenty of cord-wood was found for sale at the uniform price of $4 a cord. This was paid for in money and in trade. At the missions and trading posts the Indians demanded money for their wood; at their huts, remote from posts or missions, they were paid in trade—four cupfuls of sugar or tea for $1. This trading tea was vile stuff. Calico was accepted by the Indians at 25 cents a yard, and other articles at the same ratio. During the latter part of the trip cord-wood was scarce, and the crew almost daily had to cut the wood for a day's run. The boat would be stopped at drift piles and the wood put aboard in long lengths and cut for the furnace while the boat was in motion. Often we could not make a landing at the drift piles on account of shoal water near the shore. In such cases the anchor was dropped and the fuel loaded on the steamer with a rowboat. For a distance of thirty miles above Rampart City (Minook Creek) dry wood of any description was exceedingly scarce. There is plenty of green wood, which we attempted to burn, but we could not keep steam up with it. During this time of scarcity of fuel we discovered a vein of coal about eighteen miles above Minook Creek. The boat was stopped and about two tons of coal dug from the mountain side and loaded aboard the boat. The quality of this coal was very poor, and the most of it was dumped overboard the next day, having slacked to dust in that time. In my judgment this question of ready fuel for boats next year will be the key to the solution of the problem of supplying sufficient food for the increasing number of people coming into the country. If the number of boats plying the river is very largely increased next year, the demand for ready fuel will far exceed the supply.

The steamer met with several serious accidents on the way up the river. Two blow-outs of the connections in the steam pipes delayed us seriously on the trip, as we had to lay up until the damage was repaired. The first accident occurred on the second day out, while the boat was wooding, and the second occurred just below Rampart City. This last accident completely disabled the boat in midstream. The Stars and Stripes had just been hoisted on the flagstaff, so as to go into the city with colors flying, when the exhaust suddenly stopped. The boat was immediately enveloped in steam and began to drift helplessly down stream. She drifted about a mile, when she was gotten under control sufficiently to make a landing, when the damage was repaired. We lost about twenty hours in making the repairs necessitated by these blow-outs. An accident to the machinery of a boat plying this river is a serious matter unless the boat carries duplicate parts for her engines and steam connections, which the *St. Michael* had only in part, for they can not be replaced on the river or anywhere on the coast short of Seattle or Portland.

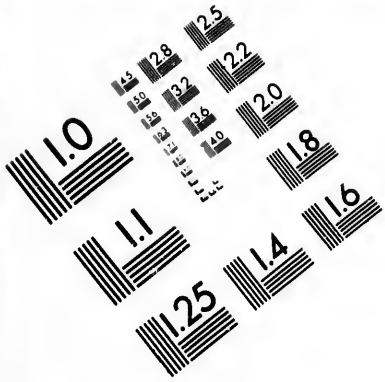
Early in the morning of September 7 the dreaded cry of "Fire!" was heard aboard the *St. Michael*. The captain was at the wheel at the

time. He placed it in charge of the mate and came below, and found on investigation that the timbers beneath the fire box were burning. He ordered all doors and windows closed and excluded the air from the fire as much as possible by the use of sacks of flour and corn meal. The boat was run about a mile upstream and a landing made, where the smouldering fire was extinguished. It was impossible to make a landing sooner on account of long stretches of bars and shoal water on either shore. This part of the narrative of the trip should not be passed without saying that in all probability the career of the *St. Michael* would have ended at this point if it had not been for the coolness and rare presence of mind displayed by the captain and the fidelity in the execution of commands shown by the two mates in this hour of rare danger.

We reached Minook Creek (Rampart City), 1,000 miles from St. Michaels, at 8 a. m. September 14. Here we found fourteen of our stockholders, who preferred remaining at that point to proceeding farther up the river, as the steamer *Hamilton*, returning down the river, had reported that it was impossible for boats to proceed farther than Fort Yukon on account of the low stage of water in the river. Their share of the cargo was given them and the journey continued. At Minook we learned the sad news of the death of H. B. Tucker, by freezing. He was from Troy, N. Y., being a son of the proprietor of the Troy Press and a stockholder in the steamer *St. Michael*. The circumstances attending his death were peculiarly sad. He started with three companions to go fourteen miles up Minook Creek for the purpose of locating a placer mining claim. Each man took a pack containing two blankets and food for two days. They reached the ground and located their claims the next day, and started back to Rampart City, at the mouth of Minook Creek. The party became separated, two going one way, and Mr. Tucker and Mr. D. P. Powell, of New York, taking another route. Night overtook Tucker and Powell before they reached their destination, and they built a fire and camped for the night on the trail. It had been snowing all day, and the snow continued to fall throughout the night. The next morning they breakfasted on two sea biscuits and a cup of coffee, all the food they had left, and resumed their return journey. After traveling about three hours, Mr. Tucker complained of being very tired. They rested a while, and before resuming their way, Tucker said that he was very chilly. After walking another hour he wished to rest again, but his companion urged him to continue walking, as he was afraid they might not be able to reach their destination before night, for the walking through the moss and wet snow with which the country was covered was very difficult and slow. In a short time Powell noticed that his companion was not following him, but was wandering blindly from the trail in the opposite direction. He went to him and said, "Tucker, this is no time for pranks." To this remark he received an incoherent reply. He then realized for the first time that Tucker's condition was serious. He led him back into the trail and urged him on before him. In a short time Tucker sank to his knees, and could not be urged farther; in fact, he could not be roused sufficiently to elicit a reply to questions as to his condition. Powell then placed him in a sitting posture beside a tree, wrapped all the blankets they had about him, and started for help. In the course of half an hour Powell met two men on the trail, and the three started at once to Tucker's relief, but when they reached him he was cold and stiff in death. Two days later he was buried in a rubber blanket on the trail where he died, there being no lumber at this point with which to make a coffin. This account of the circumstances attend-

ing the death of Tucker was given me by Powell, his traveling companion on the ill-fated trip. There being no civil officers at Rampart City, the stockholders of the Y. M. C. Association held a meeting aboard the *St. Michael* September 15 and appointed Mr. Frank Gleason, of Davenport, Iowa, and Mr. George M. Reed, of Boston, Mass., joint custodians of Mr. Tucker's effects. His 1,000 pounds of food aboard the boat was sold for $123.85, the amount expended in its purchase at St. Michaels, and placed in the ship's stores. The gentlemen named were instructed to put themselves in communication with Mr. Tucker's parents and send this money and his other effects to them. Mr. Tucker died September 11, and his was the second death occurring among the passengers of the *Cleveland*. The other death occurred on board the *Healy*, just below the Greek Mission. The deceased's surname was Georg, a Syrian, from Washington, D. C. He was buried at the Greek Mission. After a delay here of thirty-six hours in discharging a part of the cargo and repairing some steam connections, the boat proceeded on her way up the river.

Another stop was made at Alder Creek, twenty miles above Rampart City, on account of the serious illness of the captain, and also to allow the crew to locate placer mining claims on this creek, which was the center at that time of a wild stampede from Rampart City, gold being found there in paying quantities. Most of the crew located claims here, and here we got a clew to the mystery of how a strong person could freeze to death in this latitude in the month of September. All the crew, except the captain and surgeon, started up the creek early in the morning of September 16, and had to walk about twelve miles before they reached the portion of the creek not staked. All were strong, healthy men, and each carried a pack of about thirty pounds on his back. The weather was damp, but not severely cold. It had been snowing some each day for a week, and the small mountain streams had been frozen to a depth of an inch. About 4 p. m. the men began to get back to the boat and continued to straggle in until 10 p. m. With but three exceptions they were almost completely exhausted and their features pinched and haggard. After sitting down for a few minutes they would begin to shiver and their teeth to chatter. An examination disclosed the fact that each man's clothing was wringing wet, necessitating a complete change of clothing. This moisture results from perspiration, and is a source of great danger to men inexperienced in this climate. The freedom with which a person will perspire here under continued exertion is something remarkable. The cold forms a fine coating of frost on the outside of the clothing when worn to fit the body snugly, which gives it practically an impervious coating. All moisture is retained within, and it is a dangerous thing to sit down on the trail to rest when in this condition, as the chilling of the body occurs very quickly. Most persons come into this country with preconceived ideas of combating the cold. They bring the heaviest of clothing and furs with them, which are all right and necessary for use about camp or when riding, but when on the march or doing heavy work, lighter clothing is preferable, if not absolutely necessary. At the hour of 10 p. m. six of the crew had not returned to the boat, and the surgeon took a lantern and started up the trail to meet them. He met the first four about a quarter of a mile from the boat. They were badly exhausted, and told him that Thomas Marshall was behind assisting one of the men, who had completely given out. He found them a short distance farther up the trail. Mr. Marshall was carrying his own and also his companion's pack and assisting the exhausted man to walk, with an arm around his waist. The man was helped to the boat, stripped, and put



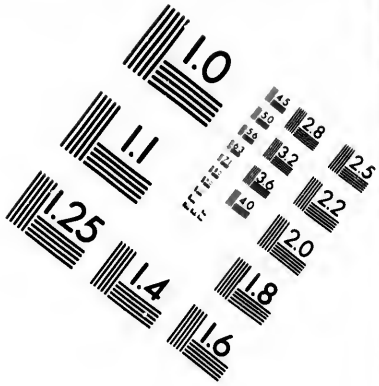
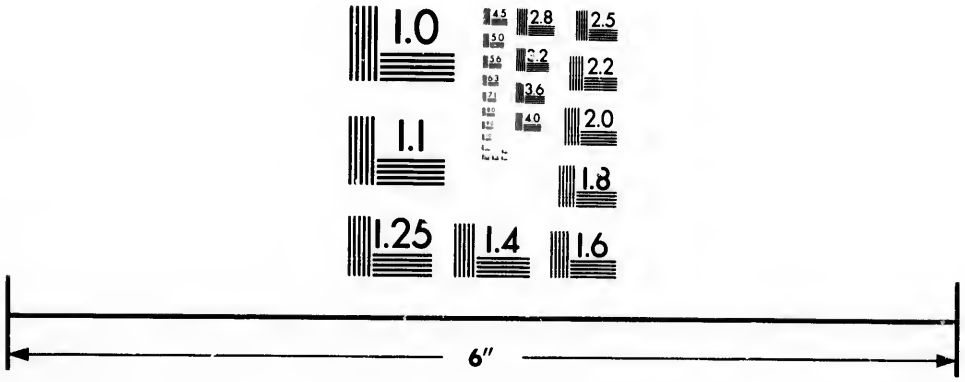
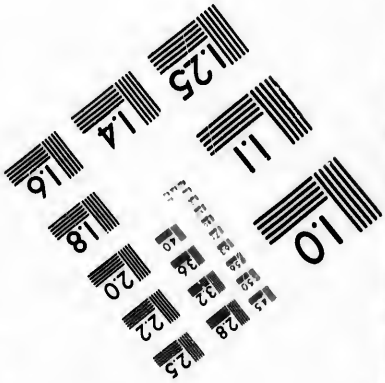


IMAGE EVALUATION
TEST TARGET (MT-3)





Photographic
Sciences
Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

2.8
3.2
2.5
2.2
2.0
1.8
1.0

to bed, having undergone an experience which it required an Alaska climate and moss to duplicate. This man was strong and weighed 190 pounds, being a miner from Montana who had roughed it for years in the mountains of that State. His powers of endurance had been all right until he stopped with three companions toward nightfall to make a cup of coffee. He then became chilled from the wet condition of his clothing, and shortly after resuming the trail, gave out. The condition of his companions was but little better. They attempted to make a fire and camp, but could not find dry wood in sufficient quantities to make a fire large enough to dry their clothing. Mr. Marshall, who had to go the greatest distance to locate his claim, overtook them on his way back, and realizing the danger in the situation, took the exhausted man's pack and urged them all forward. The trail crossed and recrossed the creek scores of times, and the man was so weak that he could not wade the creek without being swept from his feet. At these places Mr. Marshall placed him on his back and carried him across, and when he reached the boat, after six miles of this work, he was apparently unconscious that he had been doing a noble work that day, but every thoughtful man who looked into his pinched and haggard face knew that he was a hero. Some of the men who started that morning returned without accomplishing their object on account of the difficulties encountered walking through moss a foot or a foot and a half deep. The three who came back in the best shape kept in motion all day and had no opportunity of getting chilled.

The captain's condition the next morning was not improved. He had been suffering intensely for two days with pleurisy and a form of enteritis, and the motion of the boat was agony to him. He was strongly urged by the surgeon and crew to have the boat take him back to Minook, where he could be put in a cabin and properly cared for, as the superstructure of the boat was nothing but a mere shell of thin woodwork inclosing the engine and boiler, covered with canvas, and could not be kept warm. He refused to consent to this, saying that he had promised the shareholders when in St. Michaels that as long as there was one of them above him on the river nothing short of conditions which could not be overcome would keep him from taking their food to them, and that he preferred the increased chances of death aboard the boat to a failure to keep his promise. He placed the boat in charge of the mate, and at noon, September 17, the *St. Michael* was under way again, having lost eighteen hours of running time at Alder Creek, the whole of the 16th and half of the 17th, the boat following the usual custom of the river of laying up at night.

On September 19 the *St. Michael* met the *Healy* coming down the river. She had twenty-five passengers of the steamer *Cleveland*, returning back home; also six of the stockholders in the steamer *St. Michael*. The latter were taken aboard, and the boat proceeded on her way up the river, reaching Fort Yukon on the 23d, in the evening. Here we found twelve more of our stockholders, they having been left at that point by the steamer *Healy*, her captain claiming that he was unable to proceed farther up the river on account of the low water. We learned here that the steamers *Alice*, *Hamilton*, and *Healy* had discharged their entire cargoes at this point and returned down the river. The steamers *Bella* and *Weare* had discharged the greater part of their cargoes at this point also, and proceeded up the river with light loads. The *Bella* also dropped her barge at this point, having previously discharged about one-third of her original cargo at Fort Hamlin. Why the steamer *Weare* did not pick up the passengers left at this point by the steamer *Healy* and carry them to their destination is an enigma to all

intelligent men who know the circumstances of the case. Both boats belong to the same transportation company, and all the passengers held tickets, purchased from this company, calling for transportation from Seattle to Dawson. There was no shelter for them at Fort Yukon, and it was the most inhospitable point at which to leave them, being the only trading post on the river strictly within the Arctic Circle. The twelve stranded stockholders were taken aboard the *St. Michael*. The boat was crowded far beyond her capacity, part of the men being compelled to sleep in the open air, on the canvas top of the boat. We lost twenty-four hours at Fort Yukon shifting the cargo to make room for the additional men and their effects, and left that point at 3 p. m. September 24. A man was placed on the bow of the boat, and one was also placed on the barge, with poles to sound the depth of the channel over the bars above Fort Yukon. We were reliably informed at Fort Yukon that the *St. Michael* was drawing too much water (42 inches) to get over the bars. We found at the shallowest part of the channel four and one-half feet of water.

On the evening of the 28th Circle City was reached. Ice began running in the river during that night. Part of the stockholders concluded to stop here, and their part of the cargo was put ashore, this work occupying the whole of September 29. Nineteen of the stockholders concluded to risk and attempt to proceed on the way to Dawson. The weather grew colder, and the next day, the 30th, the ice was running so thickly and the river falling so fast that the conclusion was reached to wait for softer weather. One of the factors that forced this decision was the fact that we were compelled to drop our barge here and load the remainder of the cargo on the boat. This put her eight inches deeper in the water. The barge was a double-bowed barge of twenty tons burden. Instead of moderating, the weather grew colder, and the river partially closed, freezing toward the center from both shores to a depth of eight inches. This shore ice lessened by two-thirds the navigable width of the river, leaving a narrow channel between of swift water, filled with moving cakes of ice. By October 10 the weather moderated and the river began to rise. The captain had the forward part of the boat sheathed with sheet-iron to protect her from the running ice, and also had a channel cut through the ice from the boat to the running water in the river. This channel was 30 feet wide and about 350 feet long. These preparations were made with the intention of proceeding on the way to Dawson as soon as the boat was loaded.

At St. Michael's the men who entered the cooperative scheme to buy the steamer hoped the outcome of the venture would prove a happy illustration of the benefits of cooperation, and the venture as far as Circle City benefited all the men interested. They got a year's supply of food for each into the country, and proceeded farther into the interior than any of their fellow passengers from Seattle, except Capt. P. H. Ray, U. S. A., and one other individual. These two passengers were taken from Fort Yukon on the steamer *Bella*. The cost of a share of stock in the boat and a year's supply of food for each individual amounted to less than one-half the cost of the same amount of food if bought in Circle City, not to say anything of the difficulty of purchasing food here at any price. If the boat had been a complete loss at her destination each stockholder would have been the gainer in dollars and cents from this one trip. But unhappily the tale of this trip of the *St. Michael* would not be complete if the reasons were not given for the failure of the boat to proceed farther on toward her destination. As stated previously, the weather began to moderate, a channel was cut through the ice to get the boat into running water, and the effects of the nine-

teen men who had concluded to go on to Dawson were being loaded when the first difficulty in the cooperative scheme occurred. The stockholders who intended to remain in Circle City sold their stock to other parties who wished to go to Dawson, and these purchasers claimed the same rights and prerogatives as the original purchasers of stock, and insisted on taking 1,000 pounds of freight each aboard. We submitted our difficulties to a board of arbitration, composed of Capt. P. H. Ray, U. S. A., and Mr. Charles Eaton and Mr. L. Poot, of Circle City. They decided that a transfer of stock carried with it all the rights of the original purchasers, and that each stockholder was entitled to carry 1,000 pounds of freight aboard the boat. The boat could not carry the load, and it was impracticable to take the barge, as the engine was not powerful enough to tow it through the narrowed channel formed by the ice extending from each shore. We had learned this from our experiences coming up the river. Just below the mouth of the Tanana we had had great difficulty in proceeding upstream on account of the force of the current and the absence on both shores of eddies in the water of which advantage might be taken. We eventually got up into less swift water by quartering across the river several times, gaining a little with each tack across the stream. At that point we were four hours in moving upstream one mile. Between Fort Yukon and Circle City we struck another very rapid stretch of water, and succeeded in overcoming it by the same maneuvers; but our progress through it was painfully slow. After the decision of the arbitrators, Captain Barnette decided that it was useless to attempt to go farther up the river; but we were all monomaniacs on the subject of getting to Dawson, and persuaded him to make the attempt, even overloaded as the boat would be. Accordingly, on the morning of October 15, the *St. Michael* was backed through the channel cut in the ice into the running water in the river. Here she was unable to breast the current, and after half an hour's attempt to go upstream the captain made a landing, and told the men that it was hazardous to attempt and impossible to go up the river unless half the men would consent to remain behind and allow the others to go. Each man wished his neighbor to remain but wanted to go himself. In disgust the captain resigned, and he, with the two mates and the surgeon, had their effects unloaded and bade adieu to the *St. Michael*. The remainder of the shareholders elected a new captain, employed the engineer of the steamer *Victoria* and the pilot of the steamer *Bella*, both of which steamers were at the time in winter quarters at this point, and during the afternoon of the same day made another attempt to go up the river. They left about 1 p. m., and at 5 p. m. had progressed only about one mile above Circle City. What happened there is best told in the words of one who was aboard of her. He said: "When we left Circle City the new engineer placed the safety valve at 140 pounds, 20 pounds higher pressure than she had been run with previously. At a sharp bend in the river, about a mile above Circle City, the boat was unable to make any headway against the current. At this point a steam connection above the boiler began to leak. The fireman noticed this, and cried, 'Save yourselves; the boiler is bursting.' A wild stampede occurred among the passengers and everyone lost his wits. The pilot attempted to land the boat, but before he reached the shore ice the boat struck a bar and hung helplessly there, about twenty feet from the ice along the shore. Here the crew worked all night taking the cargo from the boat, and eventually lightened her enough to get her off the bar. The next morning they reloaded her and returned to Circle City, wiser men by an additional day's experience."

If this statement of our difficulties in navigating this slightly known river shall prove of any value to others who are contemplating a like venture, we shall have been amply repaid for its preparation.

A large number of the tributaries of the Yukon are navigable for a distance of from 50 to 400 miles. The Tanana can be ascended at ordinary stages of water to the last-named distance by boats drawing four feet. For boats drawing three feet the Andreafski is navigable for 100 miles, the Koyukuk for 300 miles, and the Porcupine for 155 miles. The Stewart River can be navigated 220 miles by boats drawing thirty inches, and boats of like character can ascend the Pelly 250 miles in high water. White River is navigable for boats drawing three feet to a distance of 150 miles in high water. Lewes River can be navigated by boats drawing thirty inches from its mouth to Rink Rapids, a distance of fifty-three miles. In the opinion of experienced river men it is not possible to take a boat through Rink and Five Finger Rapids, which are about six miles apart, although, as stated in the section on The Trails, it is authentically reported that Canadian capitalists are building boats to run from the head of Lake Teslin down the Teslin (Hootalinqua) and the Lewes to Dawson. If this be so, it will be necessary to line the boats through both rapids. The distance from the mouth of the Teslin to the head of Lake Teslin is 332 miles, and a surveyor of the Dominion Government, who came down the river in October, reports that he found from one to twenty-eight fathoms of water in the lake, which is 105 miles long, and not less than five and a half feet in the river, which was at low stage at the time of the soundings. From Five Fingers to the White Horse Rapids, a distance of 217 miles, boats of three-foot draft would have no difficulty at a medium stage of water, while boats of four-foot draft could successfully navigate the upper river from Grand Canyon through the lakes to the head of Lake Bennett, a distance of ninty-nine miles. It is possible that some dredging would be necessary to enable boats to get over the shallow bars at the foot of two or three of the lakes.

Thus it will be seen that the Yukon and its tributaries constitute a vast system of waterways of about 4,000 miles in aggregate length and navigable for boats of from 200 to 800 tons, and it should be borne in mind that there are numerous streams which have not been explored that may eventually bring the figure to 5,000 miles or more. This magnificent network of navigable rivers must in the nature of things be the most important factor in the future development of the greatest mineral zone on the American continent.

The only practical means of transportation for long distances available in this country during the winter is the dog team. Horses were used last winter between Circle City and Dawson, but they proved a failure on account of the difficulty of securing feed. Dogs are used in large numbers for freighting to the mines and between points on the river, being attached to sleds by means of a simple harness constructed of light leather or strips of canvas. The standard sled is seven feet

long, sixteen inches wide, and five inches in height, made of birch and shod with steel or brass. The usual number of dogs in a team is four, but quite frequently six or eight are used and sometimes even more. A good dog team will draw 200 pounds to the dog, including the camp outfit, and from twenty to thirty miles a day can be made on a good trail. The dogs are fed on dried salmon, when obtainable, the allowance to a dog being about two pounds per day. Owing to the poor local run of salmon during the past season dog feed is very scarce, and it is necessary to resort to the use of bacon, lard, and rice, which brings the cost of feeding a dog up to about $1 per day. As there are no trails except from points on the river to the mines, it is necessary, in order to reach the coast, to travel over the ice on the river. The Yukon, like all long rivers flowing north, freezes first at the mouth, and the mush ice from the headwaters is caught by the solid ice toward the mouth and piled up in jagged ridges from five to twenty feet in height. When the river finally closes these ridges occur every mile or so and at every bend, while the intervening stretches present an indescribably rough surface, composed of up-edged ice cakes. In order to travel on the ice at all one must wait until the snow falls to a sufficient depth to fill up the rough places, and then a trail has to be broken by the use of snowshoes before the dogs can draw the sleds. Although the river generally freezes over by November 1, it is seldom that the trail is in good condition before Christmas. The journey from Circle City to Juneau, a distance of 865 miles, has been made in twenty-seven days, but the usual time is from forty to fifty days. During January and February the temperature frequently drops to 60 or 70 degrees below zero, and the trip is one that few men care to undertake.

As there are many practical men on the Yukon who have declared their intention of remaining in the valley until they can ride to the coast in a Pullman, it may be pardonable for one who knows less than they of the difficulties involved to refer to the subject of a possible railway. There is a very strong impression here, born more of hope, perhaps, than of positive information, that steps will soon be taken to construct a railroad from the head of Lynn Canal, by way of Chilkat Pass and the Dalton trail, to Fort Selkirk. Some heavy grading would be required from Pyramid Harbor to the summit of Chilkat Pass, a distance of seventy-five miles. From Chilkat Pass to the Yukon, by the proposed route, is about 325 miles, and those who have passed over the trail state that but few expensive cuts would be necessary, as the country for the most part is made up of low rolling hills and prairies, and very little bridging would be required. The greatest advantage which a road striking the Yukon at Fort Selkirk would have over one entering the country by the Taku route, or from the Stikeen to the head of Lake Teslin, would be that it would avoid the rapids in the Lewes River. It would solve the problem of transportation for the upper river section as far north as Forty Mile, as light-

draft steamers could ply between the terminus of the road and Forty Mile for five months in the year, making two round trips a week.

Captain Ray, who has given a good deal of thought to the subject, has made two reports to his Department, recommending the construction of a railroad from the head of Cook Inlet or Prince William Sound to the Tanana River and thence to Circle City, and he has asked that an officer of the Engineer Corps be sent to make a survey of the route in the spring, in time to cooperate with him. The Indians of the Tanana pass to and fro over the proposed route all winter, both to Circle City and to the trading post at the mouth of the Sushetna. The distance by this trail from the head of Cook Inlet to the mouth of the Tanana is about 350 miles, and to Circle City about 450 miles. The shortness of this route, and the fact that it communicates with the open sea, is entirely in our own country, can be operated all winter, and intersects our richest mining districts, commend it strongly to Captain Ray's favor. By making a terminal at the mouth of the Tanana, and another at Circle City, American merchants can dominate the trade of the entire Yukon Valley, not only in our own country, but in British North America. The completion of a Canadian railroad to the Yukon would be disastrous to American trade in this section, as American products would be discriminated against and Canadian merchants would do in Alaska what American merchants are now doing in Northwest Territory. As the development of the mining industries of all of Northern Alaska is paralyzed by the lack of sufficient food supplies at reasonable prices—the commercial companies, as now managed, being unable to meet even the present demand—the project of a railroad by the Cook Inlet route should commend itself to the consideration of American capitalists.

THE UNITED STATES MAIL.

Aside from the all-important question of the food supply, the greatest hardship imposed upon the people of the Yukon basin, and the one against which the most general complaint is heard, is the poor mail service. The mail contract for the Circle City route calls for a monthly letter service between Juneau and Circle City, at a compensation of $6,999 for the year—an absurdly inadequate amount under the abnormal conditions existing here. (a) On account of the high compensation

a It is proper to say that the conditions relating to the mail service, set forth in the next few pages, will no longer exist after July 1, 1898. The Postmaster-General, on March 29, 1898, awarded a contract for carrying the mails from Juneau to Weare, Alaska, at an annual compensation of $56,000. The contract provides for two round trips a month for a period of four years, beginning July 1, 1898. The contractor obligates himself to provide supply and relief stations and to stock them with ample supplies and provisions, reindeer, and dogs. The contract also calls for Laplanders, carriers, and dog teams in sufficient numbers to insure regularity of service. The principal intermediate points on the route are Dawson and Forty Mile, Northwest Territory, and Circle City, Alaska. The Canadian Government has consented to the establishment of necessary supply stations on her territory.

demanded by carriers, the great cost of supplies, and the immense prices which dogs command, it is impossible for a contractor to make any profit on a yearly contract at a less rate than $25,000. If the contract were extended over a period of years the service could be performed for less, perhaps, as the contractor would then be justified in making proper preparations in the way of the establishment of stations, the purchase of dog teams, etc., which he can not do under a yearly contract and at present prices. At least seven round trips during the year must be made on the ice, and as a round trip consumes from three to four months, it is necessary to have four carriers constantly on the road. It is essential that their wages be sufficiently large to make it an object to return to Juneau; otherwise they are apt to remain here and let the outgoing mail accumulate, to be taken out by the first steamboat in the summer. A dog team such as would be required for the service costs at least $1,500, and four of these would represent an initial outlay of $6,000, or nearly as much as the present contract allows. In addition to the carrier an Indian would have to be employed to accompany each team, to handle the dogs or break trail, at a cost of $100 or $125 per month and subsistence. Under the most expeditious schedule that could be arranged it is probable that for seven months in the year at least eight men—four carriers and four Indians—would be constantly under pay, at an aggregate cost in wages and subsistence of not less than $1,500 per month. The expenses during the four or five months that small boats can be used on the upper river would be considerably less; but it is probable that the outlay in wages of carriers and Indians and the subsistence of men and dogs would reach fully $18,000 per year. These figures are not given haphazard, but are based on careful calculations made by men thoroughly familiar with the conditions, two or three of whom have carried the mail and know whereof they speak, and one of whom, after an experience of three months as a subcontractor, at a time when the compensation was larger than it is now, found himself $3,200 out of pocket.

Mr. Joseph Demars, the mail carrier who brought in the mail which left Juneau September 6, arrived here October 12. He left Juneau August 6, with the mail for that month, being assured by the contractor that he would find supply stations every hundred miles all the way to Circle City. On his arrival at Lake Bennett, where he supposed he would find supplies and a boat, he learned that these had not been provided, and was forced to pay out all the money he had with him for passage to Dawson. He was practically penniless, and without food, suitable clothing, or blankets. His entire equipment, as he tersely puts it, consisted of Uncle Sam's mail bag, a gun, a fishing line, and his past experience. He reached Dawson August 20, where he concluded to remain a month in order to earn enough money to pay his way to Circle City, turning over the August mail to the carrier who had preceded him, and who had also been forced to stop in Dawson for

a month's employment before proceeding to this place. As stated, Mr. Demars reached Circle City October 12, and he is still here, absolutely powerless, through lack of equipment, to return to Juneau. No one blames him, but some severe criticisms of others more responsible for the present state of affairs are heard.

As a consequence of the absence of proper postal facilities, the people are forced to send their mail out by private parties, usually paying $1 per letter, with no assurance that their letters will ever reach their destination. A very large proportion of the letters coming into the country are received through the same uncertain channels. The following notice, taken from the bulletin board in front of one of the commercial companies' stores at Circle City, gives a fair idea of the kind of mail service our citizens are forced to employ: "I will leave Circle City for Juneau in a few days. Any person having letters to send I will mail for $1 per letter. In case I do not get beyond Dawson the mail will be turned over to reliable parties going out." As the man who signed this notice was an individual who formerly had a contract to carry the mail from Juneau to Circle City, and who, becoming disgusted with the job, dropped the mail bag on the trail, where it was picked up the following summer by his successor, it might be supposed, especially in view of his own uncertainty as to whether he would go through at all, that not many would have seen fit to avail themselves of his services, but so great was the desire to communicate with friends on the outside that a large number of persons committed letters to his doubtful care.

On account of the inadequacy and unreliability of the mail service each of the commercial companies is obliged every winter to send a man to the outside world, at an expense of $1,500 or $2,000, for Indians and dogs, for the purpose of carrying to the home office requisitions and information as to the necessities of the business.

American citizens in Dawson complain bitterly of a regulation which causes great delay in the receipt of letters addressed to them by their friends in the United States. All such letters are placed in the Circle City sack at Juneau, brought through Dawson to Circle City and then returned to Dawson for distribution. This arrangement, which certainly must be based on a misconception on the part of the postal authorities of the distance and the difficulties of communication between the two places, involves a useless transportation of Dawson mail for nearly 600 miles and a delay of from sixty to ninety days in its delivery.

This unsatisfactory condition relative to the mail has its pathetic side. There are hundreds of men here who have not heard from the outside for many months, in some cases even years, although they have every reason to believe they are not forgotten or neglected by the folks at home. One man, who was closely observed at the last distribution of mail, turned sadly away as the last name was called, and with

sobs in his voice said to an acquaintance standing by, "I have been here eighteen months and have not had a single word from home." By reason of the wear from constant handling, most of the letters brought in by private parties are stripped of their envelopes by the time they reach their destination. At Dawson, previous to the 1st of last October, there were three places in the town where mail was distributed—at the stores of the two commercial companies and at Carey's saloon. In each of these places the boxes were filled with letters without envelopes, and therefore in many cases with nothing to identify the persons to whom they were written. One letter, which will serve as a sample, was written in an Eastern city in June, 1894, opening with "My darling boy," and closing with, "Your anxious, but ever loving mother." The inquisitive reader, who wonders how even so much of the contents of a private letter could become known to a conscientious third person, should bear in mind that all such letters as that described are read at least casually by hundreds of men in the hope of finding letters that they know must have been written to them. On October 1 the mounted police at Dawson took charge of the mail, and it is probable that the condition there has somewhat improved.

During the navigation season a letter, newspaper, and package mail service is performed by the steamers on the Yukon, which relieves the isolation somewhat, but for seven or eight months in the year the people of the Yukon Basin are practically shut off from communication with the outside world.

On Christmas Eve, two or three weeks after the above was written, a mail containing 960 letters arrived in Circle City. The carrier who brought this mail in left Juneau October 5 and reached Dawson about the middle of November in an exhausted condition, which necessitated his entering the hospital for treatment, the mail being turned over to a freighter, who brought it to this place. There are many people here who had instructed their correspondents to address them at Dawson, and but few of this class received any mail, as the authorities at Dawson failed to forward their letters.

A word in this connection to thoughtful friends in the States: Nearly every letter received here from the outside contains one or more newspaper clippings, and with rare exceptions these clippings relate to the Klondike, a subject with which it is fair to assume that the average man on the Yukon is infinitely more familiar than newspaper writers in Eastern cities, to say nothing of the fact that the current news here is from sixty to ninety days younger than that contained in the clippings. It is respectfully suggested that it would be far more satisfactory to the people here if their friends would send them clippings giving the details of recent events of general interest in the outside world.

APPENDIX—REPORT OF THE CHAMBER OF COMMERCE OF JUNEAU, ALASKA.

The within sketch of the resources of Juneau has been compiled by the Chamber of Commerce of Alaska, and is respectfully sent to, and by the request of, the Department of Labor, Washington, D. C.

The Chamber of Commerce takes extreme pleasure in ever holding itself at the commands of the Department, and will willingly furnish any and all data and information respecting this coast of Alaska that it may have in its possession.

Respectfully submitted.

L. G. KAUFMAN,
Secretary Alaska Chamber of Commerce.

In the autumn of 1880 the site of this present thriving city was a wilderness, covered with a forest of standing timber and a dense, tangled undergrowth of alder, salmon-berry bushes, and thorny 'devil club," a mass almost impenetrable even to the beasts which were its only inhabitants. It was then that Richard T. Harris and Joseph Juneau, prospecting along the shores of Gastineau Channel, discovered Gold Creek and, following up its rocky canyon, found rich placer and quartz. The news of the discovery brought others to the scene, and the first house was brought, ready framed, from Sitka, and put up December 4, 1881, by George E. Pilz, since deceased. The building of the town immediately followed the discovery of gold. The first name given to the place was Harrisburg, but shortly after it was changed to Rockwell, after one of the naval officers then stationed at Sitka. In the fall of 1881 the citizens, thinking that one of the discoverers in the camp, Joseph Juneau, had not received the full measure of honor due him, held a meeting and again changed the name of the town, from Rockwell to Juneau.

By the beginning of 1882 the population of Juneau had increased to about thirty persons, principally miners from Wrangell and Sitka. Some of those from Sitka were thirty days, or even more, making the voyage, owing to the rough weather which frequently prevails in that latitude during the winter months. One party lost its course, and having no chart went nearly around Admiralty Island, exploring almost every bay and inlet between Sitka and Juneau. Another party was blown ashore on an island in Stephens Passage, the canoe wrecked, and most of the effects washed away by the surf, and over a month was consumed in completing the trip. Other similar disasters were of frequent occurrence. One coming to Alaska now on the floating palaces which ply regularly between her ports and the centers of trade can scarcely realize the hardships, privations, and sufferings endured by the pioneers of the district. The sole capital of many of these men

consisted of a sack of flour, a side of bacon, a few pounds of beans, an ax, pick, shovel, and canoe. The hardships did not discourage these sturdy men, for they knew that gold, and plenty of it, lay in the basin above them, and they set to work cutting down the monarchs of the forest and building cabins for their shelter during the long months of the approaching winter.

Several cabins were constructed during that fall, a few of which are still to be found on the town site, but the greater number have been replaced by large, substantial buildings. These cabins, while small, are not in the least uncomfortable in which to spend the long winter months of Alaska, and many a pleasant evening was spent during that season by these few pioneers who unconsciously located what was soon to be the metropolis of the district, the picturesque, progressive, and important city of Juneau. Although the selection of the town site was made without reference to natural advantages except its proximity to the basin passes, it is yet true that had the sole object of these pioneers been the selection of a site for a purely commercial instead of a mining town, no more perfectly adapted place could be found, either as a distributing point for the surrounding mines and for the interior or for the transshipment of goods to other coasts or inland points. A sheltered harbor with good anchorage, ample facilities for wharf construction, central location, and many other natural advantages leave little to be wished for.

The first miners' meeting ever held in Alaska convened in the "Flag of All Nations" in February, 1881. At that meeting a code of mining laws was framed for the Harris mining district, which district includes all of southeastern Alaska except the districts of Sitka and Wrangell, and Richard T. Harris was elected the first recorder of the district. R. Dixon and Judge Henry States succeeded Harris. John G. Heid was the next recorder chosen by the people, and served a term as such for several years.

Juneau is the only city in Alaska which has been granted a United States patent for its town site. The town-site entry was made October 13, 1893, under the act of March 3, 1891. John Olds was the first trustee appointed, who was succeeded by Karl Koehler, and was in turn succeeded by the present incumbent, Thomas R. Lyon. A patent for the town site was issued September 4, 1897, and about the middle of October the first deeds for town lots in Juneau were issued. The patentable acreage in the town site of Juneau was 108.49.

By reason of her favorable situation, with respect to the immense adjacent quartz mines and as the supply and transfer point for the interior, Juneau has, in the short period since the first discovery of gold in Silver Bow Basin, gained a supremacy in population and a commercial importance far in excess of any other city north of Puget Sound. Juneau is the key city of the far northwest—a busy, business-like, cosmopolitan town of about 3,000 permanent residents. The population is largely augmented during the winter season by prospectors and miners

who are prevented by the severity of the climate from the pursuit of their summer callings and in summer by tourists who flock hither, attracted by the grandeur of its unsurpassed scenery. During the three years just passed Juneau has had a marked and steady growth, until now, instead of the miners' cabins and the makeshift trading stores there have appeared substantial residences and modern business blocks, of which larger and more southern cities might well be proud. The principal streets are laid with heavy plank pavement; all streets have sidewalks of ample width; a thoroughly modern electric plant furnishes the city with both incandescent and arc lamps; a water system, excelled by none on the Pacific coast, furnishes water for both domestic and fire purposes, and a citizen volunteer fire company, thoroughly equipped with carts, ladders, hose, fire extinguishers, and all the latest paraphernalia, keeps careful watch that the city is not devastated by fire.

In the fire department Juneau takes special pride. Hydrants are placed at frequent intervals throughout the town, the very reliable water supply being stored in reservoirs on the hillside at such elevation as to afford ample pressure at all points, thus obviating the necessity of fire engines. The fire apparatus is well housed in suitable buildings. Watchmen are kept constantly patrolling the city during the night, to give instant alarm at the breaking out of any conflagration. In addition to the great fire protection afforded by the water supply the waterworks provide power for more than a dozen large manufacturing establishments. A telephone system, liberally patronized, connects Juneau with the mines in the basin immediately back of the town, with Douglas City and the great Treadwell group of mines situated on Douglas Island immediately opposite Juneau, and also with the large mining settlement at Sheep Creek, about four miles from the city.

Juneau, through the Federal Government, offers every educational facility found in cities of corresponding size in more civilized centers. Besides the free schools, there are a number of educational institutions maintained by private enterprise; no less than five religious organizations hold services in their own church buildings; a large, conveniently situated, and well-appointed hospital is conducted by the Sisters of Charity; one free and two private circulating libraries furnish the latest reading matter to the residents of the town. The Alaska Chamber of Commerce, composed of the representative business and professional men of the city, diligently watches over the commercial and financial interests of the entire district.

Three principal and a dozen minor transportation companies run steamers regularly between Puget Sound and Pacific coast ports and this town, giving to Juneau an average of about five steamers each week. Three commodious wharves furnish ample dock facilities for these steamers. The largest wharf has a deep-water frontage of 700 feet, and its warehouse floors cover a space of more than 30,000 square

feet. The following report of the Pacific Coast Steamship Company shows the amount of merchandise discharged at these wharves by this company alone during the past season: Freight handled at Juneau City wharves from April 1, 1897, to April 1, 1898—Received, 16,751 tons; forwarded, 3,924 tons; total, 20,685 tons.

Exclusive of the various mining and milling companies having their principal place of business in Juneau, the business, professional, and industrial interests of this city may be summarized as follows, each establishment being enumerated once, only bona fide and distinct business establishments being enumerated:

Architects	2	Groceries (exclusive)	2
Assayers	2	Guns and ammunition	1
Attorneys at law	18	Hardware stores	5
Bakeries	6	Harness makers	2
Banks, State	2	Hay and grain	2
Barber shops	6	Hospital	1
Blacksmiths	2	Hotels	6
Boarding houses	6	Insurance offices	2
Boat builder	1	Iron works and machine shop	1
Bonding company (goods in transit)	1	Jewelers and watchmakers	3
Boot and shoe store (exclusive)	1	Laundries	6
Breweries	2	Lodging houses	12
Butcher shops	4	Lumber yards	3
Cabinetmakers	2	Merchandise brokers	6
Carpenters and builders	10	Millinery stores	3
Carpet-cleaning works	2	Newspaper and printing offices	2
Churches	5	Painters and paper hangers	5
Cigar and tobacco stores (exclusive)	4	Photographers	2
Cigar factory	1	Physicians and surgeons	6
Civil engineers	3	Pile driver and marine builder	1
Coal bunkers	2	Saloons	30
Confectioners	2	Shoemakers	5
Curio and variety stores	2	Stationery and book store	1
Dancing halls	3	Steamship offices	3
Dentists	3	Surveyors	4
Draying and freighting	4	Tailors	5
Dressmaking establishments	6	Taxidermist	1
Drug stores	4	Telephone company	1
Dry goods (exclusive)	1	Theaters	3
Electric light and power company	1	Title abstract company	1
Fruit and produce	3	Undertaker	1
Furniture stores	3	Upholsterers	2
Furriers	3	Woodworker (other than carpenter)	1
General merchandise and Yukon outfitters	12		

Alaska has all the professional men, clerks, mechanics, and laborers she needs or can accommodate at the present time. Mining men with capital and prospectors who can bring a substantial stake and who can aid in the development of the country are about the only classes to whom the field is open, and to them Alaska offers splendid inducements. Wages here are not as high as the outside world seems to suppose, but all comers may be assured of adequate compensation for their labors. Skilled laborers are very well paid.

Juneau, from its geographical situation and from the number, experience, and capabilities of its merchants, is the logical outfitting and supply point for the mines of the coast and the interior. The prospector, bent on exploring the gold regions of the interior, first comes to Juneau, purchases his outfit and supplies, and then decides as to which route he shall take to the interior. Good-sized boats ply regularly between Juneau and Wrangell, Taku Inlet, Pyramid Harbor, and the head of navigation on Lynn Canal.

Juneau is the center of the Harris mining district. Tributary to Juneau is a vast mineral belt, upon which are mills containing, approximately, 1,500 stamps and furnishing employment to about 5,000 people. A short sketch of this mining district may be of interest to the Department.

Four miles from Juneau, at the head of Gold Creek, lies Silver Bow Basin, where Juneau and Harris made their first discovery of auriferous quartz. Here the development of properties has been steadily carried forward. All the claims are highly productive and their permanency assured. The first attempt at milling in this basin was made by the Johnson Mill and Mining Company, which built the first wagon road to the falls, where it erected a mill to work the ores from the mines now owned by the Ebner Gold Mining Company. In 1887 George E. Pilz erected a small Huntington mill on the property now being operated by the Alaska-Juneau Gold Mining Company. The veins of the Silver Bow Basin have a general trend from southeast to northwest, with a dip about three feet in ten, and are classed as contact-fissure veins, the reef having a black slate hanging wall and a greenish-colored gneiss foot wall. Between the walls of the contact a space of several hundred feet intervenes, which is filled in with schists, quartz veins, and vein matter. The filling is network from knife-blade seams to several feet in thickness, although the general trend of the main vein is in the direction of the strike on the reef. The character of the ore is a sulphurate of iron and galena, associated to a small degree with zinc blende, antimony, and copper pyrites, and carries both gold and silver, although generally richer in gold.

Leaving Silver Bow Basin and crossing a divide at an altitude of 3,500 feet into Sheep Creek Basin, this same vein increases greatly in silver, while the amount of gold carried is about the same. In the easternmost workings of the Silver Queen, at nearly the foot of the range, is found native and ruby silver and gray copper ores similar to the silver districts of Colorado and Nebraska; but, as stated before, it also runs well in gold, and all milling of these ores consists simply in reducing their bulk by concentration and without any free-gold saving appliances. The reef is located continuously from two to three claims in width for a distance of over six miles through Silver Bow Basin and over the range into Sheep Creek Basin to the Silver Queen, with almost continuous surface croppings the entire distance. Following still farther east along the belt, where the reef leaves the valley and climbs

the mountain side, the veins again crop to the surface, and locations are strung out from this point over another high range and through valleys and over ridges to Taku Inlet, a distance of fully eight miles. On this end are the Star of Bethlehem, Last Chance, Sheridan, and Little Queen locations, which show some very rich gray copper ores. There is no doubt of the development of this basin into one of the leading quartz camps of Alaska.

Shuck Bay has produced large amounts of placer gold in past years, though now its leads are attracting considerable attention. Of these the Red Wing group is most advanced in development, located in Shuck Basin and owned by the Windham Bay Gold Mining Company. This property was located several years ago by William Ebner, of Juneau, and others, and considerable development work has been done on the same. The ore is of a free milling nature, carrying iron and zinc blende, galena, a trace of copper in combination with gold, and a small percentage of silver.

While the first auriferous quartz discovered in Alaska was found near Sitka, mining operations have never been vigorously prosecuted in Sitka district. During the past season considerable interest has been manifested and several very promising groups of claims have been bonded to Eastern capitalists, and the coming season will witness a great deal of development work.

The richness of the surface prospects in Sumdum district, fifty miles south of Juneau, has inspired the gold seeker with great hope for the future of the many located in the vicinity, and the promise has been fulfilled in every instance where development has been made. Most conspicuously is this true in the case of the Bald Eagle mine, which, a mere prospect four years ago, has become one of the richest and best paying properties on the Pacific coast. The ores carry very little free gold, the values lying entirely in sulphurates, these being principally pyrites, though both zinc and lead sulphurates are present in considerable quantities, the octagonal sulphurate predominating, this being the richest of all quartz, wherever found. A crusher at the mouth of the adit discharges its product into a flume, which conveys it to the mill, nearly a mile distant, at a nominal cost for handling; and its richness may be estimated by the fact that the four stamps in four days less than six months produced concentrates valued at a round $100,000, or nearly $17,000 per month. The average value of all ores mined is $30 per ton.

Admiralty Island, one of the largest of the Alexander Archipelago, lies south of Juneau. It is separated from the mainland coast by a narrow channel, and its mineral belt is in common with that of Douglas Island, lying north of it. A number of claims have been located upon its ledges, which vary in character from low to medium grade, and in size from mere stringers to immense deposits, approaching or even exceeding that of the great Treadwell. Funter Bay, on the west side of the island, is one of the most promising locations.

Upon Douglas Island there are now dropping 480 stamps in the mills

of the Treadwell and the Mexican companies, the first of which has made this island famous the world over. The reef upon which these mills are located extends two-thirds the length of the island, and upon it have been located numerous claims. The Treadwell has recently let a contract for the erection of 520 additional stamps, which, when in operation, will make this group of mines the largest that the mining world has ever seen.

Like the mother lode of California, the mother lode of Alaska, or the great mineral belt which extends along the coast of southeastern Alaska, just back from the water's edge, and which never fails to pay the careful prospector, has of course its spots of unusually rich value. At Berners Bay, forty miles north of Juneau, on Lynn Canal, there was discovered some years ago ore of splendid promise. The principal mines in this very rich district are those of the Berners Bay Mining and Milling Company, the Jualin Mining and Milling Company, and the Portland and Alaska Mining and Milling Company. The Aurora Borealis has recently erected a five-stamp mill on its property in this district, which will soon be ready for operation. The character of the Aurora is free milling, and is said to be one of the most extensive and richest paying veins in the district. The Mellin Mining and Manufacturing Company of Berners Bay will soon erect a twenty-stamp mill on its property.

Many valuable locations have been made in the Ketchikan district, though no mills have yet been erected. It is one of the most promising mining districts on the coast, and is expected to add considerably to Alaska's gold output.

On the banks of Prince William Sound immense deposits of copper have been found, which bid fair to rival the famed Anaconda mine.

The mining carried on in the Lituya section is confined to the beach or ruby sand deposits that lie along the shore line, some miles distant above the entrance to the bay. The first discovery of gold was made there a number of years ago, since which time washing has been carried on to a greater or less extent every season. The Lituya Bay gold commands the price of $18 per ounce. It is fine and somewhat scaly, but, being untarnished by rust, amalgamates readily, and but a very small per cent is lost in the tailings. The gold deposited along the shores is brought there by glacial action from the range back.

In conclusion, we wish to say that but a fraction of one per cent of this rich coast has ever felt the tread of the prospector, and a valuable field for operations is open to all who may come. The great success of this section of the country has inspired the breasts of capitalists with unlimited confidence in this country, and good undeveloped prospects find a ready sale. The chief virtue of prospecting on the coast of southeastern Alaska is the ability to keep in constant communication with a distributing point for supplies and the general evenness of the climate, which is not nearly as severe as the great majority of mining settlements throughout the world.